Appendix A _ Faculty Biographies

APPENDIX A _ School of Architecture Faculty

Last Name	First	Rank			Terminal Degree	Terminal Degree Institution	Hire Date
Akin	Omer	Professor	RA		PhD	Carnegie Mellon University	1973 Fall
Arscott	MaryLou	Adjunct Associate Professor	RIBA		AA Diploma	Architectural Association	2007 Fall
Aurand	Martin	Sr. Arch Librarian Archivist			MLIS	University of Pittsburgh	1987 Fall
Aziz	Azizan	Senior Researcher, CBPD		LEED AP	MS Sustainable Design	Carnegie Mellon University	1997 **Fall**
Boykowycz	Walter	Adjunct Professor	AIA		MArch	Carnegie Mellon University	1969 Fall
Brill	Christine	Adjunct Assistant Professor	RA		MLArch	Penn State University	2007 Fall
Bucco	Teresa	Adjunct Assistant Professor	RA		MArch	North Carolina State University	2002 Fall
Burns	David	Adjunct Assistant Professor			MS Advanced Arch Desigr	Columbia	2003 Fall
Calisti	Lee	Adjunct Assistant Professor	AIA		BArch	Kent State University	2002 Fall
Carlough	Gary	Adjunct Professor	AIA		Barch	University of Arizona	1991 Fall
Coohill	Joe	Adjunct Assistant Professor			PhD	Oxford	2007 Spring
Cooper	Doug	Andrew Mellon Professor			BArch	Carnegie Mellon University	1976 Fall
Damiani	Gerard	Adjunct Professor	AIA		BArch	Syracuse University	1996 Fall
Davis	Jeffrey	Adjunct Associate Professor	AIA	LEED AP	BS Architecture	Univ of Illinois, Urbana-Champaign	1996 Fall
Doyno	Ken	Adjunct Associate Professor	AIA		BArch	Carnegie Mellon University	1991 Fall
Drake	Sarah	Adjunct Assistant Professor	AIA		MArch	North Carolina State University	2003 Spring
el Samahy	Rami	Adjunct Assistant Professor			MArch	Harvard	2006 Fall
Ficca	Jeremy	Assistant Professor	AIA		MArch	Harvard	2007 Fall
Fineout	Matt	Adjunct Assistant Professor	AIA		MArch	SCI-Arc	2001 Spring
Fisher	Eric	Adjunct Assistant Professor	AIA		MArch	Harvard	2001 Spring
Gannon	Kevin	Adjunct Associate Professor	AIA	LEED AP	MArch	Yale	1996 Fall
Goettel	Sheldon	Adjunct Professor	AIA		BArch	Carnegie Mellon University	1990 Spring
Golli	Jonathan	Adjunct Assistant Professor			MArch	University of Toronto	2007 Fall
Gross	Mark	Professor			PhD	MIT	2004 Fall
Gutschow	Kai	Assistant Professor			PhD	Columbia	1998 Spring
Gwin	Michael	Adjunct Assistant Professor	AIA	LEED AP	BArch	Virginia Tech	2007 Spring
Hartkopf	Volker	Professor, Director CBPD			PhD	University of Stuttgart	1972 Fall
Hokanson	Erik	Adjunct Assistant Professor	AIA		BArch	Kansas State University	2006 Spring
Hutzell	Kelly	Caste Assistant Professor			MS Arch. + Urban Design	Columbia	2005 Fall
Johnson	Donald	Adjunct Assistant Professor	RA		MArch	Yale	2006 Fall
King	Jeffrey	Adjunct Assistant Professor	AIA		MArch	Tulane	2004 Fall
Kline	Jonathan	Adjunct Assistant Professor			MFA	Penn State University	2002 Fall
Krishnamurti	Ramesh	Professor			PhD	Waterloo	1989 Fall
Kurland	Kristen	Associate Teaching Professor			BArch	University of Pittsburgh	1996 Fall
Lam	Khee Poh	Professor	RIBA		PhD	Carnegie Mellon University	2003 Fall
Lee	Laura	Professor, Head	FAIA		MArch	University of Michigan	1989 Fall
Lee	Stephen	Professor	AIA	LEED AP	March Building Studies	Carnegie Mellon University	1985 Fall
Limauro	Cindy	Professor, Drama			MFA in Lighting Design	Florida State University	1987 Fall
Loftness	Vivian	University Professor	FAIA	LEED AP	MArch	MIT	1981 Fall
Lubetz	Arthur	Adjunct Professor	AIA		BArch	Carnegie Mellon University	1988 Fall
Lucchino	Jennifer	Adjunct Assistant Professor	AIA		MArch	Rice University	2003 Fall
MacDonald	Dutch	Adjunct Assistant Professor	AIA		BArch	Carnegie Mellon University	2006 Fall
Mattern	Gerry	Adjunct Professor	P Eng		BSEE	Rose Polytechnic	1982 Fall
McNutt	Mick	Adjunct Assistant Professor	AIA		BArch	Syracuse University	2007 Spring
Minnerly	Chris	Adjunct Assistant Professor	AIA		BArch	Cornell	2006 Fall
Minnerly	Mark	Adjunct Assistant Professor	RA		BArch	Cornell	2007 Fall
Mondor	Christine	Adjunct Assistant Professor	AIA	LEED AP	BArch	Carnegie Mellon University	1999 Fall
Morris	Jason	Adjunct Assistant Professor	AIA		MArch	Illinois Institute of Technology	2005 Fall
Oppenheim	Irving	Professor	P Eng		PhD	Cambridge	1972 Fall
Plecity	Matthew	Adjunct Assistant Professor	RLA		MArch	Virginia Tech	2006 Fall
Reid	Robert	Adjunct Assistant Professor	P Eng		PhD	Carnegie Mellon University	2005 Fall
Rico-Gutierrez	Luis	Associate Dean, CFA			MS Building Performance	Carnegie Mellon University	2001 Fall
Rosenblatt	Paul	Adjunct Associate Professor	AIA		MArch	Yale	1996 Fall
Rosenblum	Charles	Adjunct Assistant Professor			M Arch History	University of Virginia	2000 Fall
Rothschild	Dan	Adjunct Associate Professor	AIA		MArch	North Carolina State University	2003 Fall
Ryan	Raymund	Adjunct Assistant Professor			MArch	Yale	2005 Spring
Shaw	Diane	Associate Professor			PhD	University of California - Berkeley	1996 Fall
Smith	Scott	Director, Shop			MFA	Cranbrook	1984 Spring
Suhrbier	Kent	Adjunct Assistant Professor	AIA	LEED AP	BArch	Carnegie Mellon University	2000 Fall
Torello	Francesca	Adjunct Assistant Professor			PhD	Politecnico Torino	2007 Fall
Wolff	Spike	Adjunct Assistant Professor			MArch	SCI-Arc	2003 Fall

APPENDIX A _ Faculty Biographies

Administration

Head	Laura Lee	FAIA
Director, Graduate Program	Mark Gross	PhD

Faculty

Tenured		
Professor	Omer Akin	PhD, RA
Andrew Mellon Professor	Doug Cooper	
Professor	Mark Gross	PhD
Professor	Volker Hartkopf	PhD
Professor, Associate Dean	Ramesh Krishnamurti	PhD
Professor	Khee Poh Lam	PhD, RIBA
Professor	Laura Lee	FAIA
Professor	Stephen Lee	AIA, LEED AP
University Professor	Vivian Loftness	FAIA, LEED AP
Professor of Engineering (joint appt.)	Irving Oppenheim	PhD, P.Eng
Associate Professor	Diane Shaw	PhD
Tenure Track and Full-Time Chair		
Assistant Professor	Jeremy Ficca	AIA
Assistant Professor (begins 2008)	Pablo Garcia	
Assistant Professor	Kai Gutschow	PhD
Caste Assistant Professor	Kelly Hutzell	
Teaching Track		
Associate Teaching Prof. (joint appt.)	Kristen Kurland	
Special Appointments		
Adjunct Professor of Practice	Gerard Damiani	AIA
Adjunct Assistant Professor	Jonathan Kline	
Adjunct Assistant Professor	Christine Mondor	AIA, LEED AP
Special Faculty, Associate Dean	Luis Rico-Gutierrez	
Adjunct		
Adjunct Professor	Walter Boykowycz	AIA
Adjunct Professor	Gary Carlough	AIA
Adjunct Professor	Sheldon Goettel	AIA
Adjunct Professor	Arthur Lubetz	AIA
Adjunct Professor	Gerry Mattern	P.Eng
Adjunct Associate Professor	MaryLou Arscott	RIBA
Adjunct Associate Professor	Jeffrey Davis	AIA, LEED AP
Adjunct Associate Professor	Ken Doyno	AIA
Adjunct Associate Professor	Kevin Gannon	AIA, LEED AP
Adjunct Associate Professor	Paul Rosenblatt	AIA
Adjunct Associate Professor	Dan Rothschild	AIA
Adjunct Assistant Professor	Christine Brill	RA
Adjunct Assistant Professor	Teresa Bucco	RA
Adjunct Assistant Professor	David Burns	
Adjunct Assistant Professor	Lee Calisti	AIA
Adjunct Assistant Professor	Joseph Coohill	PhD
Adjunct Assistant Professor	Sarah Drake	AIA
Adjunct Assistant Professor	Rami el Samahy	
Adjunct Assistant Professor	Matt Fineout	AIA
Adjunct Assistant Professor	Eric Fisher	AIA
Adjunct Assistant Professor	Jonathan Golli	
Adjunct Assistant Professor	Mike Gwin	AIA, LEED AP
Adjunct Assistant Professor	Erik Hokanson	AIA
Adjunct Assistant Professor	Don Johnson	RA
Adjunct Assistant Professor	Jeff King	AIA
Adjunct Assistant Professor	Jennifer Lucchino	AIA
Adjunct Assistant Professor	Mick McNutt	AIA
Adjunct Assistant Professor	Dutch MacDonald	AIA
Adjunct Assistant Professor	Chris Minnerly	AIA
Adjunct Assistant Professor	Mark Minnerly	RA
Adjunct Assistant Professor	Jason Morris	AIA
Adjunct Assistant Professor	Matt Plecity	RLA
Adjunct Assistant Professor	Robert Reid	PhD, P.Eng
Adjunct Assistant Professor	Charles Rosenblum	
Adjunct Assistant Professor	Kent Suhrbier	AIA, LEED AP
Adjunct Assistant Professor	Francesca Torello	PhD
Adjunct Assistant Professor	Spike Wolff	

Courtesy Appointments		
Associate Professor of Engineering	Susan Finger	PhD, P.Eng
Professor of Drama	Cindy Limauro	
Adjunct Assistant Professor	Raymund Ryan	
Professor Emeriti		
Professor	John Eberhard	FAIA
Professor	Ulrich Flemming	PhD
Professor	Delbert Highlands	RA
Distinguished Teaching Professor	David Lewis	FAIA

Programs

Bachelor of Architecture		
First-Year	G.Damiani/D.Cooper, Coord.	
Second-Year	K.Gutschow, Coordinator	
Third-Year	C.Mondor/S.Lee, Coordinators	
Fourth-Year	O.Akin/K.P.Lam, Coordinators	
Fifth-Year	J.Kline/G.Damiani, Coordinators	

Master Degrees		
MS Arch. Eng. Const. Mgt.	Omer Akin	Chair
MS Architecture	Kee Poh Lam	Chair
MS Bldg. Performance	Volker Hartkopf	Chair
MS Computational Design	Mark Gross	Chair
MS Sustainable Design	Stephen Lee	Chair
Master of Urban Design	Vivian Loftness	Chair

PhD Degrees		
PhD Arch. Eng. Const. Mgt.	Omer Akin	Chair
PhD Computational Design	Ramesh Krishnamurti	Chair
PhD Building Performance	Volker Hartkopf	Chair

Outreach Programs	
Architecture Explorations Pre-College Program	Kelly Docter, Coordinator
Summer Internship for Diversiy (SID)	Omer Akin, Coordinator

Centers / Institutes / Labs

Center for Building Performance and Diagnostics	
Director	Volker Hartkopf
Assistant to the Director	Sharilynn Jarrett
Professor	Khee Poh Lam
Professor	Steve Lee
Professor	Vivian Loftness
Engineering Consultant	David Archer
Senior Researcher	Azizan Aziz, LEED AP
Researcher	Sophie Masson
Researcher	Hongxi Lin
Technician	Jim Jarrett

Computational Design Lab (CoDe Lab)	
Director	Mark Gross

Digital Fabrication Lab	
Director	Jeremy Ficca

Remaking Cities Institute	
Director	Luis Rico-Gutierrez

Sustainable Design Academy Executive Education	
Director	Christine Mondor

Wood and Metal Shop	
Director	Scott Smith

Faculty

Tenured	11	(10.5 FTE)
Tenure Track/Full Time	3	(3 FTE)
Teaching Track	1	(.5 FTE)
Special Appointment	4	(3 FTE)
Adjunct	37	(10 FTE)
Courtesy Appointment	3	(0 FTE)
Joint Appointment	2	(0 FTE)
Emeriti	4	(0 FTE)

PhD	11
FAIA	2
AIA	26
RA	5
RLA	1
RIBA	2
P.Eng	3
LEED AP	8

27 FTE:274 Students = 1:10 Faculty to Student Ratio

Ömer Akin, PhD, RA
Professor

Omer Akın, Professor, School of Architecture, Carnegie Mellon University, is a frequently published researcher in the areas of design cognition and computation. His books include *Representation and Architecture* (1982), and *Psychology of Architectural Design* (1986, 1989).

Upon completing his Bachelor and Master degrees in Architecture at the Faculty of Architecture, Middle East Technical University (METU) in 1970, he obtained a Fulbright Scholarship for graduate studies in the United States of America. Subsequently, he earned a Master of Architecture in Environmental Systems from Virginia Polytechnic Institute and State University (VPI&SU) in 1972, and a Ph.D. in Architecture, from Carnegie Mellon University (CMU) in 1979.

He has been teaching as tenure track and tenured faculty at CMU since 1978. He has served as the Head of the Department of Architecture, during 1981-1988; and the director of the graduate programs, during 1989-2000. His research interests include design cognition, computer aided design generation, case-based instruction, ethical decision making, design virtual worlds, building commissioning, and automated requirement management. Over the past two decades he has received numerous research grants from external sources, including the National Science Foundation, funds totaling in excess of $2.5M In addition to research projects within the School of Architecture, he has conducted joint research with associates in the Psychology, Civil and Environmental Engineering, School of Urban & Public Affairs, and Computer Science departments.

He is a registered architect in the Commonwealth of Pennsylvania and the Republic of Turkey. He has a small, selective practice. He has served on many professional and research panels and boards, including the National Science Foundation, the National Endowment for the Arts, and the Educational Testing Center.

Mary-Lou Arscott, RIBA
Adjunct Associate Professor

Mary-Lou Arscott is a British architect who has been involved in design centered practice and radical construction initiatives since qualifying in the 1970's. After completing her diploma at the Architectural Association in London she studied carpentry, joinery and wood machining. She worked for ten years as a carpenter/cabinet maker and educator, with 5 others built and designed a cooperative house and initiated two EU funded training schemes in London to encourage women to enter the building industry.

She returned to architectural practice in 1986, first to Casson Conder to work on the extension to Parliament buildings in London, then to the cooperative practice of Edward Cullinan Architects where she became a director and worked on a series of arts and educational buildings. In 1996 she was a founding architect in Knox Bhavan Architects where for ten years she worked on a wide range of historic buildings and residential projects.

A recent project, Holly Barn in Norfolk, won a number of prestigious awards including the RIBA Manser Medal 2006.
Over the years Arscott has been interested in the detailing and realization of art ideas and has she has assisted various artists with gallery exhibitions and with public art installations.

Her architectural work ranges across public and private sectors and combines elegance with economical use of materials. The projects reflect careful attention to the needs of client and user whilst involving the creative contribution of the builder.

Martin Aurand
Senior Architecture Librarian and Archivist

Martin Aurand is Architecture Librarian at Carnegie Mellon and Archivist of the Carnegie Mellon University Architecture Archives; and currently serves as interim head of the University Libraries' Arts and Special Collections department. Aurand holds an M.A. in American Studies and Historic Preservation from George Washington University, and a Master of Library Science degree from the University of Pittsburgh.

As the University Libraries' liaison librarian to the School of Architecture, Aurand provides a complete program of library services including collection development, reference and research consultation services, and a curriculum-based program of library instruction. He also contributes to the School through studio project reviews and classroom lectures.

As Archivist, Aurand manages all aspects of the collections and operations of the Carnegie Mellon University Architecture Archives, a repository of architectural drawings and other records documenting the architects and architecture of Pittsburgh and its vicinity, including the Carnegie Mellon campus. The Archives sponsors digital projects, publications, exhibits, and other activities.

Aurand is author of two books: *The Spectator and the Topographical City* (Pittsburgh: University of Pittsburgh Press, 2006), and *The Progressive Architecture of Frederick G. Scheibler, Jr.* (Pittsburgh: University of Pittsburgh Press, 1994); a research guide: *Pittsburgh Architecture: A Guide to Research*; and a number of other publications on Pittsburgh architects and architecture.

He is a member of the Art Libraries Society of North America (ARLIS/NA) and is the current president of the Association of Architecture School Librarians (AASL).

Azizan Aziz, LEED AP
Senior Researcher CBPD

Azizan Aziz is a Senior Research Architect at the Center for Building Performance and Diagnostics. His research focuses on the design of integrated systems for commercial buildings, workplace productivity and sustainable zero-energy buildings.

Azizan has worked on several sustainable masterplanning and building projects worldwide. The masterplanning projects include the US Army Corps of Engineers campus in Urbana-Champaign, the City of Wolfsburg, Germany, and the Lichtenberg District in Berlin. His building projects include the Intelligent Workplace at CMU, the Adaptable Workplace Laboratory at the U.S. GSA Headquarters in Washington DC and the Laboratory of Design for Cognition for the Electricité de France in Paris, France.

Currently Azizan is currently working on the Building as PowerPlant/Invention Works (BAPP) initiative and the Workplace 20•20/National Environmental Assessment Toolkit (NEAT) project. The BAPP project focuses on the integration of advanced energy-efficient building technologies with innovative on-site energy generation systems to create a building that is a net exporter of energy. The focus of the NEAT project is to evaluate the role of facilities in individual and organizational effectiveness. For the NEAT project, Azizan is leading the research team in developing an indoor environmental quality assessment toolkit, comprised of environmental sensors and dataloggers, online surveys, and a database for analysis.

Azizan teaches Integrated Product Design and LEED and Sustainable Buildings. He was on the advisory panel for the proposed Masters in Sustainable Design program at Universiti Teknologi MARA, Malaysia. Recently, Azizan was invited by the United Nations Development Program (UNDP) to present a working paper to the Government of Malaysia on Green Buildings and Sustainable Development.

Walter Boykowycz, AIA
Adjunct Professor

Born in Ukraine during and immigrated as a World War II refugee with his parents to Chicago, Walter Boykowycz began his higher education at the University of Illinois Chicago and the Chicago Art Institute. The early influences on his academic development were Mies and Buckminster Fuller, and their associates who dominated the faculty of the institution and were his earliest summer employers during his studies. The work of Wright and Jens Jensen constituted other lasting local influences in the formation of WB's path. W.B. holds a MArch from CMU and a Master of Urban & Regional Planning from the University of Pittsburgh.

While in graduate school, W.B. joined the CMU architecture faculty. Some of his early teaching activity evolved into a local community planning and involved the University of Pittsburgh expansion plans, as well as a local mining town redevelopment. The latter included a summer design-build project with students.
In 1984, he directed a Second Year Spring Semester design build-studio constructing facilities for the CMU Children's School. In the Spring 2004 semester he collaborated in an elective design-build course resulting in the construction of facilities for the Silver Eye Gallery. During 1996-7 he served as a visiting Fulbright professor at Kiev's Ukrainian Academy of Arts & Architecture, whose early faculty included Kasimir Malevich & Vladimir Tatlin. WB now holds an honorary professorship at this school & plans to forge an exchange relationship between it & CMU.

W.B.'s academic research and teaching activity, focused on construction technology and ecology-based landscape design, is informed by design work from thirty-year design practice, which includes architecture, urban planning and landscape projects. During the 1970's, while employed by the City of Pittsburgh Parks Department, he worked on the design of the Highland Park Zoo, Market Square, and numerous park projects in Pittsburgh.

Christine Brill, RA
Adjunct Assistant Professor

Christine Brill was born and raised in New York City. She studied at Carnegie Mellon University and ITESM in Querétaro, México, receiving a Bachelor of Architecture in 1999. Christine practiced architecture professionally for six years in Pittsburgh, PA. At the design firm, Pfaffmann + Associates PC, she worked on a wide range of project types, including corporate headquarters, urban design and master planning, historic preservation and adaptive reuse.

Christine was project manager for the award-winning renovation of the Carnegie Library of Pittsburgh's Homewood Branch (2003). She is a Registered Architect in the Commonwealth of Pennsylvania.

In addition to professional practice, Christine has been involved in numerous community-serving activities. Because of these interests, she completed a Master of Landscape Architecture at the Pennsylvania State University (2007), concentrating on Community and Urban Design. For her thesis research, Christine analyzed the development of social agency among participants of the GroundZero Action Network, an arts and activism collective that she co-founded in 2000 in Pittsburgh, PA. While at Penn State, Christine taught 2nd- and 3rd-year landscape architecture design studios. She also participated in a 10-day design charrette in Eldorado, Brazil, studying the area's immanent urbanization.

Christine returned to Pittsburgh after living in central Pennsylvania for two years. She is currently working on several building renovation projects, and is launching an architecture, urbanism and art practice with her husband and creative partner, Jonathan Kline. Their firm will offer a creative, trans-disciplinary approach to urban and regionally-focused projects.

Teresa Bucco, RA
Adjunct Assistant Professor

Teresa Bucco is a practicing architect with 12 years experience in the profession. She holds a Bachelor of Art in Architecture from Lehigh University and a Master of Architecture from North Carolina State University. She has a diverse architecture background with project experience in high-end residential, restaurant design, research and innovative computer software facilities, and computer animation headquarters. She is licensed to practice architecture in the state of Pennsylvania.

Teresa's professional affiliations range from small design firms to the offices of Bohlin Cywinski Jackson (BCJ). During her tenure at BCJ, she worked on an array of projects, notably, Pixar Animation Studios and the School of Oceanography at the University of Washington, which both won AIA Honor Awards in 2002 and 1999 respectively. Her focus on the Pixar project was on the exterior and interior design and detailing of glass and brick wall and canopy systems. Likewise for the School of Oceanography, which also involved the environmental considerations of oceanographic research and sciences and their impact on the teaching and research facility.

Teresa is currently an adjunct assistant professor at Carnegie Mellon University teaching undergraduate first year design studio. She recently completed a new restaurant project, Bistro 19, in the Pittsburgh region, which won the 2007 *Pittsburgh Magazine* best restaurant design award.

David Burns
Adjunct Assistant Professor

David Burns holds a Master of Science of Advanced Architectural Design from Columbia University and a Bachelor of Architecture from the University of Tennessee. He has worked for Asymptote Architecture, Guggenheim.com, and Holabird and Root LLC. From 2001-2003 he was the Paul Rudolph Visiting Assistant Professor at Auburn University's School of Architecture. He was a Visiting Professor at the Entertainment Technology Center at Carnegie Mellon University from 2006-2007.

Since August 2003 he has been an Adjunct Assistant Professor at Carnegie Mellon University's School of Architecture teaching architectural and digital design. In six years of full time academic experience, Burns has created a dozen seminars and courses focusing on experimental design and the ramifications of emerging digital technologies on academia and the profession.

In 2001, Burns founded SO-AD / the Strategy Office of Architecture and Design. SO-AD is an award winning, multi-disciplinary design office producing architecture, graphic design, digital design, and installation art. SO-AD has participated in invited competitions sponsored by the Andy Warhol Museum, Columbia University and the Children's Museum of Pittsburgh, including the recent Charm Bracelet Project. The work of Burns and SO-AD has been published and exhibited extensively nationally and internationally. http://so-ad.com

Lee Calisti, AIA
Adjunct Assistant Professor

Lee Calisti is a graduate of Kent State University (Bachelor of Architecture, 1991, Magna Cum Laude). He spent his final year there as a graduate teaching assistant and graduated top of his class receiving the AIA Medal of Honor in 1991.

After graduation and a few years of working for a small firm in Greensburg, he left that office to work for a small firm downtown Pittsburgh. During the next eight years, he was instrumental in many important projects recognized by several state and local AIA design awards and Pittsburgh Historic Review Commission.

Lee started his own practice, lee CALISTI *architecture+design* in 2003, to pursue an interrelationship between practice and teaching. The firm has grown steadily since its inception with several projects completed or under construction. In 2006 he had his first project published. His own house-office (live/work) has just been recently completed which demonstrates his many thoughts and philosophies of design, housing and construction.

As an active AIA member, he co-founded the AIA Pittsburgh Young Architects Forum (formerly known as the Pittsburgh Interns and Young Architects Forum -PIYAF). After serving as co-chair for over 7 years, he served as the Pennsylvania Regional Liaison for the AIA National Young Architects Forum until 2007. He currently serves as a board member of the City of Greensburg's Historic Architectural Review Board.

Beyond any of his professional development, he would much rather talk about his son, Noah, and his wife Amy. They reside in Greensburg, PA.

Gary Carlough, AIA
Adjunct Professor

An experienced, award-winning designer, Gary Carlough, AIA, is President and Founding Principal of EDGE studio and an Adjunct Full-Professor at Carnegie Mellon University, School of Architecture.

Throughout his career, Carlough has dedicated his personal and professional life to the advancement of design and architecture within both the general profession and his immediate community.

With over twenty-five years experience in project management and architectural design, Carlough has directed a broad array of projects including complex systems design for technology and research facilities, adaptive re-use of historic buildings, interior architecture and highly sophisticated programming analysis.

Years of experience along with his investigation at the Architectural Association in London gave Carlough the credibility and confidence to start his own practice. He began working independently as Carlough and Associates eventually adding a number of dedicated staff. In 1995, Carlough founded EDGE studio focusing on the role that design plays in shaping experience and perception. EDGE seeks out projects that require an innovative design approach. The use of Building Information Modeling, graphic design, web design, communications and user interface design produce original, sophisticated and economical architectural solutions that reflect the client's individual needs and character.

As a member of the Design Committee of the Pittsburgh Cultural Trust, Carlough helped direct the programming and selection of the Design/Development team for a significant project in Pittsburgh's Cultural District. Carlough served as a board member to the Friendship Development Associates from 1998 to 2004 and contributed to the successful outcome of numerous development projects. As a committee member to the Penn Avenue Arts Initiative, he has contributed in the effort to re-vitalize the Penn Avenue Corridor attracting new development.

Carlough received a Bachelor of Architecture Degree from The University of Arizona in 1975. In 1990, after 14 years experience in the profession, he engaged in independent research in Design Theory at the Architectural Association in London. Both experiences were vital to the development of his design and management philosophy as well as his dedication to teaching and lifelong commitment to learning.

Joseph Coohill, PhD
Adjunct Assistant Professor

Joseph Coohill, Adjunct Professor, School of Architecture, Carnegie Mellon University, was originally trained as a political historian, but moved towards cultural history several years ago, and is specifically interested in the reactions to the destruction and rebuilding of iconic architecture in a world history context. He is currently working on a book about the burning of the British Houses of Parliament, and the construction of the new Houses in the 1830s and 1840s. This subject has led him to consider similar incidents in other countries, and he teaches a course at Carnegie Mellon based on these events. He hopes to expand his ideas about destruction and reconstruction in his next book, which will use the case studies in his CMU course.

He completed his BA in history at Humboldt State University (California) in 1989, his MA in history at the University of Melbourne (Australia) in 1991, and his Dhil in Modern History at the University of Oxford (UK) in 1998.

He has been teaching at various colleges universities in the UK and the US, and is currently an Assistant Professor of History at Duquesne University.

He is a Member of the Royal Historical Society, the American Historical Association, the Historians of British Art, and the North American Conference on British Studies.

Douglas Cooper
Andrew Mellon Professor

Combining story, history and memory into panoramic murals has become the theme of Doug Cooper's work. He typically works with local residents and incorporates their lives into the works. He developed his first mural, now at Pittsburgh's Heinz History Center, with a Pittsburgh senior center (1992). In 1994 he completed another with elderly for the Philadelphia Courthouse. The 200 ft-long mural for Carnegie Mellon Center (1996) shows the campus and Pittsburgh in three time periods. The mural series for Seattle's King County Courthouse (2005) depicts the geography, history and land-use patterns of that region. On two occasions, Cooper has used mural projects as vehicles for foreign language instruction. In 1996, assisted by CMU students, a German professor and Frankfurt elderly, he created a 9m x 6m mural for Frankfurt's central market. A similar process was used for the University of Rome mural (2005).

Recent murals have used the constraints and opportunities of the architectural setting as a source of content. The height, sight lines and circulation in lobbies at corporate headquarters Mascaro (1999) and Michael Baker (2003) and the University of California San Francisco were used as opportunities to depict the histories and aspirations of each institution. The 200 foot-long University of Rome mural in Esquilino (2005) uses ventilator grates as an element to transform a lecture hall into a piazza filled with people enacting the history of the district.

Cooper has authored two books on drawing: *Steel Shadows* (University of Pittsburgh) and *Drawing and Perceiving* (Wiley).

Gerard Damiani, AIA
Adjunct Professor of Practice

For the past eleven years, Gerard Damiani has been an adjunct professor in architectural design at Carnegie Mellon University while pursuing a professional practice as studio d'ARC architects founder and president. Gerard was educated at Syracuse University where he received his Bachelor of Architecture degree with honors and is a registered architect with professional licenses in New York and Pennsylvania.

Gerard established studio d'ARC architects in 1996 to pursue the union and integration of architectural ideas with the craft of building. His work over the past decade has focused on the reinterpretation and reformation of the post-industrial context of Pittsburgh into new environments specific to their twenty-first century uses -- from high-tech office spaces, residences, and collegiate spaces to artists' studios, architect/artist collaborations, and exhibition installations. These works, as well as new projects, continue to draw important clues from their context to find an architecture, which is reflective and forward thinking.

Gerard's extensive academic experience includes teaching first year undergraduate architectural design and drawing at Syracuse University; as a visiting faculty member at Kansas State University in the fourth year design curriculum where he taught both a design studio and a course on mid-century modern architecture; and as a guest juror at Yale University, Syracuse University, Kent State University, University of Tennessee, and the Boston Architectural Center. In addition to his teaching commitment, Gerard has served on many University related committees, such as the Campus Design Vision Committee, Architect Selection Committee for the Gates Center, and the 2006/07 Faculty Search Committee at Carnegie Mellon as well as the Kent State University School of Architecture Advisory Board. He has also contributed articles to "Oz", the Kansas State University architectural periodical as well as the University of Virginia's architectural publication, "Modulus".

Jeffrey Davis, AIA, LEED AP
Adjunct Assistant Professor

In a span of over twenty-five years as an architect, Jeffrey Davis has developed extensive expertise in the design and construction of a diverse range of architectural projects, from small renovations to large-scale, multi-million-dollar new construction. His portfolio of work in private practice literally covers the entire spectrum of the built environment: commercial retail, corporate office, high-technology and research, industrial, civic, educational, (elementary, secondary, and collegiate facilities), health-care, and recreation and fitness buildings, as well as both single and multi-family housing. Davis is a founding principal of the firm of dggp Architecture, where he maintains a significant and intensive involvement in projects throughout the entire process, from initial programming and design conceptualization, through design and construction document development, to administration during construction.

Davis' primary focus in the design process is the achievement of a critical balance between the aesthetic and pragmatic concerns of each project. He has continually demonstrated strength in his ability to develop exceptional design concepts and solutions. Davis has a firm understanding of architectural vocabulary, and his projects reflect his sensitivity to both the technical aspects of building performance and environmental impact as well as the human aspects of building proportion, scale, color, and texture. In addition, many of his projects have utilized unique methods of project delivery, such as fast-track construction, design/build ventures, prototype building component development, and pre-construction feasibility analysis in order to attain successful results.

Kenneth Doyno, AIA
Adjunct Associate Professor

Kenneth Doyno completed his architectural degree at Carnegie Mellon University in 1987. A year later, he and Daniel Rothschild formed Rothschild Architects. In 1998 Doyno became a partner and in 2003 the firm name was changed to Rothschild Doyno Architects.

Rothschild Doyno Architects is community and design-oriented architecture firm whose architecture and planning work includes educational, institutional, recreational, commercial, community planning, and multi-family projects. Current professional project highlights include The River's edge of Oakmont, the University of Pittsburgh Honors College, Chatham College Mellon Hall, and the Sarah Heinz House.

In 1988 and 1989 Doyno developed the "Architecture for Children" class for Pittsburgh Citiparks and joined the freshman year faculty teaching Introduction to Architecture at Carnegie Mellon in 1991-1992 and 1992- 1993 academic years.

In 2003, Doyno was selected by Pittsburgh Magazine as one of Pittsburgh's "40 under 40." He has served on the Land Use Committee of the Allegheny Conference for Community Development and the Transportation for Livable Communities Committee of Sustainable Pittsburgh. Doyno is also a graduate of Leadership Pittsburgh class XVIII where he also has co-chaired the regional vision sessions for four years.

Doyno served on the Board of Calliope, the Pittsburgh Folk Music Society, as well as performed with the Folk Orchestra of the First Unitarian Church. Doyno has served on the Board of First Unitarian Church, including a year as President, during which he helped initiate a capital campaign which he chaired and saw to completion.

Presently Mr. Doyno serves on the Board of The Saturday Light Brigade community radio program, the advisory board of the Western PA Brownfield Center, and the Pittsburgh Green Government Task Force.

Sarah Drake, AIA
Adjunct Assistant Professor

In 2005 after 15 years of architectural experience Sarah Drake founded Sarah Drake/Architect, a small, full service practice. The diversity of small projects in the practice has permitted her continual exploration of the particulars of each circumstance as a form giver while responding to the needs of the individual clients. The scale of the projects both residential and commercial has required an expanded delivery method, which includes both architecture and interior design.

Prior work experience includes project management on the Western Pennsylvania Conservancy's Barn at Fallingwater for Bohlin Cywinski Jackson and The Exploris Children's Museum in Raleigh for Clearscapes,PA. For the past five years, she has been an adjunct assistant professor at Carnegie Mellon University teaching1st or 2nd year design studios.

Sarah Drake has a BFA in Photographic Illustration from Rochester Institute of Technology and a MArch from North Carolina State University.

Rami el Samahy
Adjunct Assistant Professor

Rami el Samahy, Adjunct Assistant Professor, School of Architecture, Carnegie Mellon University, is a practicing designer in the areas of urban and architecture. He has holds degrees from Brown University (B.A. International Relations, magna cum laude, 1992), from Princeton (M.A., Near Eastern Studies, with honors, 1994), and from Harvard University's Graduate School of Design (M.Arch, 2000), where he completed his thesis, "Roman Operating Systems" with Rem Koolhaas.

He has practiced architecture in Cairo and Boston. In Cairo, he has worked with Gamal Bakry Architects and Mona Zakaria Architects. In Boston, he assisted the Boston Design Collaborative in completing a new campus master plan for the American University in Cairo. He joined Machado and Silvetti Associates in 2000, and four years later was named an associate.

Rami is a founding member of over,under, a multi-disciplinary design studio. He has been involved in the design of houses in Egypt and Guatemala, an audio showroom in Dubai, competitions in South Korea and Philadelphia, a study for a Red Sea resort, and the Re-imagining Boston City Hall project.

He has taught design studios at the Boston Architectural Center and has lectured at Harvard University, the Rhode Island School of Design, and Northeastern University. He has been at Carnegie Mellon since 2006, where he teaches urban design studios, and a seminar entitled "Contemporary Middle Eastern Cities." In association with Kelly Hutzell, he is currently providing architectural and urban design guidelines for the Qatar Design Zone, located on the Qatar Foundation campus in Doha.

Jeremy Ficca, AIA
Assistant Professor

Jeremy Ficca is a licensed architect working in the professional, five-year Bachelor of Architecture (BArch) program. He has a post-professional MArch from Harvard University and a BArch from Virgina Tech. Jeremy teaches advanced design studios, digital and analog fabrication, media and is coordinator of the spring semester 2nd-year architectural design studios in the School of Architecture at CMU. As both an Academic and Practicing Architect,
Jeremy is devoted to the importance of singular and collective making as a cornerstone for architectural education. He seeks to foster a critical and opportunistic attitude amongst students towards the utilization of digital and analog design and manufacturing processes. Fundamental to this understanding is the belief that the physical realm of design investigation is a necessary complement to virtual simulation. Jeremy joined CMU in the fall of 2007 as the founding Director of the Digital Fabrication Lab at CMU, a facility intended to bridge the digital and physical, while also equipping young professionals with the a critical knowledge base to thrive in an increasingly fluid and technologically sophisticated model of practice.

Jeremy's professional practice and research involves the multi-scale utilization of common and emerging materials related to topics of tectonics, culture and customization. Fundamental to his work is an opportunistic attitude towards the use of technology as an instrument, serving larger agendas, as opposed to an end unto itself. Jeremy is particularly interested in evolving models of practice that afford deeper levels of collaboration between architects, associated disciplines and fabricators that reinvigorate the process of design and making.

Matt Fineout, AIA
Adjunct Assistant Professor

Matthew Fineout received a Bachelor of Fine Art from the University of Michigan. His studies there focused on Sculpture and the History of Art and Architecture. He received a Masters of Architecture from the Southern California Institute of Architecture where his studies focused on linguistics and semiotic theory. His involvement with professional practices while at SCI-Arc include work on the 'Metapolis' urban plan for Los Angeles with Aks Runo, the Case Study Project for MOCA, Los Angeles with Hodgetts and Fung, and the Getty Center with Richard Meier and Partners.

In 1991 Matthew joined the firm of Frank O. Gehry and Associates. His involvement on significant projects there include the Guggenheim Museum, Bilbao, Spain, The Peter B. Lewis, Weatherhead School of Management, Case Western Reserve University, the Fisher Center for the Performing Arts, Bard College, and the Weisman Art and Teaching Museum, University of Minnesota. His architectural drawings and computer work executed for Frank O. Gehry and Associates have been published and exhibited. A select series of his drawings completed for Frank O. Gehry and Associates are on permanent exhibit at the Weisman Art Museum.

In 2000 Matthew moved to Pittsburgh where he joined EDGE Studio and is a principal and partner in the firm. His work there has focused on the use of technology as a means to reframe architectural conventions both as they relate to theory and practice. He has participated in several national and international conferences and symposia on technology and information systems and their impact on society and the built environment. His current work on the Gateway Station is involved in research supported by a National Science Foundation Grant for its use of innovative technologies in the construction industry.

Eric Fisher, RA
Adjunct Assistant Professor

Eric Fisher is Adjunct Professor of Architecture at Carnegie Mellon University and Director of FISHER ARCHitecture, a Pittsburgh, PA architecture firm. He graduated from Dartmouth College in 1982 and received a masters' degree in Architecture from Harvard University in 1988. He has worked in the profession for fifteen years in the United States and Europe.

Eric Fisher's business, FISHER ARCHitecture, combines personal and direct attention to clients with an international, cosmopolitan, creative product. Recent projects include home additions such as the Irwin Residence and the Garner Residence, interior renovations such as the Troiani Residence, and also commercial designs for restaurants and stores.

Eric Fisher's resume includes employment with some of the world's most recognized architects. In 2003, his Pittsburgh Whole Foods Market design, with Perfido Weiskopf Architects, won an AIA award for excellence in design. Prior to that, he worked in Los Angeles for Frederick Fisher and Partners, where he designed the winning competition entry for the new Otis School of Design. For three years, beginning in 1997, he worked with Richard Meier and Partners on the Getty Museum where he, with others, detailed the Center for the History of Art building.

Fisher has a continuing interest in education. He has taught architecture in every city where he has lived: at the Boston Architectural Center, in Boston, at Woodbury University and the Art Center College of Design, in Los Angeles, and at Carnegie Mellon University, in Pittsburgh.

Eric is a fourth generation native Pittsburgher whose ongoing priority is to improve the city where he and his family reside. He is currently constructing an innovation oriented Pittsburgh home for his family, featured in the 2003 Carnegie Museum of Art summer architecture exhibition, which will introduce some of the ideas he has been collecting to the city he loves.

Kevin Gannon, AIA, LEED AP
Adjunct Assistant Professor

Kevin Gannon has had the unique opportunity to be involved in the architecture as a designer, builder and educator. While attending graduate school at Yale University, he held several jobs in both architectural design and construction, gaining experience and insight into the project process from different viewpoints. Gannon continued an active pursuit of work combining architectural design, construction management and hands-on building into his professional experience. After several years practicing architecture and light construction contracting in Connecticut and New York, Gannon returned to Pittsburgh to pursue his own practice and a design studio teaching position at Carnegie Mellon University School of Architecture. Establishing Davis+Gannon in 1993.

Gannon's project experience ranges from private residential projects (as both architect and builder), to the design and construction management of commercial projects, as well as work on large housing and multi-use commercial developments. His experience literally ranges from projects as small as furniture and exhibition designs, to regional /urban master planning. In all cases emphasis is placed on craft, human experience and sustainable ecological principles. He strongly believes that a well-executed construction process is an essential complement to the realization of a successful design.

Recent work for which Gannon has been responsible for project leadership include: the Collaborative Innovation Center at Carnegie Mellon University, design of a new glass arts facility for the Pittsburgh Glass Center, (Honor Award, Pgh. AIA), master planning and design for the redevelopment of Bedford Square, a mixed-use project in a historic district of Pittsburgh, studios and offices for Clear Channel Communication's, master planning for the redevelopment of the Pittsburgh Terminal Buildings, and new studios and offices for WYEP 91.3 FM, (Honor Award, Pgh. AIA) He is currently the principal in charge for a new building for WYEP with in the redevelopment plan for Bedford Square.

Gannon also has had the opportunity to travel abroad for architectural study in Japan, through a fellowship awarded for design excellence. He has also worked as architectural consultant and assistant artist for regional planning and ecologically based landart projects throughout Europe with Ocean Earth Construction and Development. His diverse experience enables him to bring unique insights to each design solution, and balance his expertise with a solid understanding of the building process.

Sheldon Goettel, AIA
Adjunct Professor

Sheldon Goettel, AIA is an Adjunct Professor in the School of Architecture. He has taught architectural design at CMU since 1990, specializing in the 3rd year.

Sheldon is a partner in Perfido Weiskopf Wagstaff + Goettel, a general practice of architecture located in downtown Pittsburgh. The firm has 3 major areas of practice: facilities for higher education, housing, ranging from public housing to market rate condominiums, and historic preservation. On the Carnegie Mellon University campus, the firm designed renovations for the historic College of Fine Arts Building that brought that building into compliance with current Code while preserving its historic character. The firm also designed the renovation of historic Hamburg Hall, converting it from a government building into an academic facility. The firm maintains a commitment to projects of civic and public value.

Sheldon is also involved in a variety of community activities. He has served on the Board of Directors of Pittsburgh Filmmakers since 1993, and as President from 2000 to 2004. He served as Chair of the "Media Arts Quarter" committee, a group of community leaders who are working to develop a media arts district in the North Oakland neighborhood of Pittsburgh. He is a Board member of West Park Court, a high-rise facility on Pittsburgh's North Side that provides housing for the low-income elderly. He is a past President of Sunnyhill Unitarian Universalist Church of the South Hills. He is a graduate of Leadership Pittsburgh.

Jonathan Golli
Adjunct Assistant Professor

Jonathan Golli was born and raised in Pittsburgh. He attended Pennsylvania State University and earned a Bachelor of Science in Mechanical Engineering in 1996. Following his degree, Jonathan returned to Pittsburgh to work in the steel industry as a mechanical design engineer. Within five years, he had designed and installed steel furnaces, coal conveyance systems, transit equipment, and other heavy industrial machinery. Wanting to pursue a professional design career, Jonathan left Pittsburgh to attend the University of Toronto. It is there that he completed his professional Masters in Architecture, receiving the RAIC Honour Roll, an award given to the top four students in each graduating class. Jonathan also was awarded the Irving Grossman Memorial Prize for his thesis "Trans-Border Modulo," a prefabricated urban intervention that provided affordable housing for immigrant workers.

Since graduating, Jonathan has worked in San Diego for Steven Lombardi Architect and currently works for EDGE Studio in Pittsburgh. Much of his professional experience is in contemporary single and multi-family infill housing. Growing up in Pittsburgh and working in the steel industry has had a lasting effect on Jonathan's architectural interests. He continues to explore the reinterpretation of the post-industrial landscape, and the juxtaposition of new building technologies with the aging infrastructure of Pittsburgh's past. Jonathan has also continued his interest in affordable housing, recently becoming a semi-finalist in the Global Green housing competition in New Orleans.

Mark Gross, PhD
Professor

Educated at the Massachusetts Institute of Technology (B.S. Architectural Design, 1978; Ph.D. Design Theory and Methods, 1986), Mark D. Gross works at the intersection of computation and design. While at MIT he worked at Negroponte's Architecture Machine Group (predecessor of the MIT Media Lab) and Papert's Logo group (developing a programming language for children for personal computers), before pursuing doctoral studies with Dutch housing expert and design methodologist N. John Habraken.

In 1987 Gross and Habraken formed a consultancy that worked for Shimizu Construction Corporation of Japan on information technologies in design. In 1990 he accepted a teaching post at University of Colorado, Boulder, where he developed a design computing program for undergraduate architecture and planning while working with Ph.D. students in computer science, civil engineering, and geography. From 1999 to 2004 he taught at the University of Washington, Seattle, where he started the Design Machine Group, a research laboratory in computer-aided design in the Architecture department. He is author of over 100 peer-reviewed articles and book chapters, and has been a keynote speaker at international conferences in Denmark, Japan, Brazil, and the Netherlands.

Gross's interests span a wide range. His Ph.D. work described a computer language for designers, based on a model of design as exploring constraints. Later he applied these ideas to develop a system for avoiding interference conflicts in architectural subsystem layouts. He has also worked on human-computer interaction and the development of interfaces for design systems, gesture and sketch recognition, pen based computing, and its application to knowledge based design. His current research is on computationally enhanced construction kits and craft for design and learning.

Kai Gutschow, PhD
Assistant Professor

Kai Gutschow is an architectural historian working in the professional, five-year Bachelor of Architecture (BArch) program. He has a PhD in architectural history from Columbia University, a professional Master of Architecture (MArch) degree from Berkeley, and a journeyman's license in cabinet making from the Handwerkskammer (Crafts Guild) in Hamburg, Germany. As a professor at CMU he has combined history, design, and craft into a uniquely integrated career path. He teaches courses in modern architectural history and theory, and he is coordinator of the 2nd-year architectural design studios. In both history and studio his goal is to synthesize distinct yet related visions of architecture. He works from the premise that greater understanding can come from linking the two, but also recognizing, and learning from, their differences.

Gutschow's research and publishing have focused on the complex and controversial history of modern German architectural culture, especially the role that architectural criticism, theory, and media culture played in influencing professional and cultural developments. He is currently preparing a book manuscript titled Inventing Expressionism: Art, Criticism, and the Rise of Modern Architecture, a thematic and cross-disciplinary look at the origins of Expressionism in architecture in the years before and after World War I. The book explores how diverse influences from art, politics, biology, design reform, education, and theories of representation all contributed to make Expressionism one of the most important and recurring themes of twentieth century architecture. In addition to his book, he has published refereed journal articles and book chapters on a variety of topics, including the work of the German architectural critic Adolf Behne, on "Installation Art," on the East African colonial architecture of the German modernist Ernst May, on the conservative critic Paul Schultze-Naumburg, and on the German patriotism and Jewish heritage of Walter Curt Behrendt.

Michael Gwin, AIA, LEED AP
Adjunct Assistant Professor

MIchael currently practices architecture with the firm of Bohlin Cywinski Jackson in Pittsburgh. He joined Bohlin Cywinski Jackson in 1998 after graduating from Virginia Polytechnic University and State University (VPI&SU). Michael is an Adjunct Assistant Professor at Carnegie Mellon University, School of Architecture.
In his 9 Years of experience, Michael has been involved with a diverse range of projects consistently receiving architectural merits for design innovation and architectural resolution. On numerous accounts, project types include the adaptive reuse of existing buildings into facilities that speak to the individual needs and character of the organization. Selected projects include the Corning Museum of Glass - Rakow Research Library, the Barn at Fallingwater, and Macromedia Headquarters. While working on the Barn project, Michael developed an interest in sustainable design and has since become LEED accredited. Additionally, Michael has been involved in Apple Computer's retail program, including the high profile store on North Michigan Avenue in Chicago and has since been project architect for Apple Shadyside and the Apple Research and Development office in Pittsburgh. Michael has also worked on projects including complex systems design for technology and research facilities including the 250,000 sq. ft. Thomas M. Siebel Computer Science Building at the University of Illinois. The design integrates a highly technical facility into a contextual campus setting, establishing a strong identity for the Computer Science Department. He is currently a project manager / project architect for the Caltech Chemistry and Chemical Engineering Building in Pasadena, CA.

Michael has served as a board member to the Lawrenceville Historical Society since 2006 where he continues to contribute to numerous community activities. Current projects include a renovation and restoration of a log cabin into a history and heritage museum highlighting the community of Lawrenceville's rich heritage.

Michael received a Bachelor of Architecture from Virginia Polytechnic Institute and State University in 1998. His extensive background in construction has been an underscore in his approach and appreciation for design and construction. Both experiences are vital to the development of his design sensibilities and lifelong commitment to learning.

Volker Hartkopf, PhD
Professor

Since 1972, Hartkopf has been teaching and conducting research at Carnegie Mellon University. His work covers a broad range of activities: international initiatives, funded research and professional consulting on building systems integration, advanced technology, building performance, energy conservation, urban revitalization, third-world housing and disaster prevention. He has realized as an architect building projects in Germany, Bangladesh, Peru and the United States. He also led masterplanning efforts for Volkswagen A.G. and the City of Wolfsburg, Germany; EXPO 2000 Hanover and Berlin-Lichtenberg, Germany.

In 1975, Hartkopf co-initiated and subsequently directed the first multi-disciplinary program in Architecture, Engineering and Planning in the USA with grants from the National Science Foundation and the building industry. In 1981, he co-founded the Center for Building Performance and Diagnostics (CBPD) at Carnegie Mellon. Between 1981-1985, Hartkopf developed jointly with Vivian Loftness and Peter A.D. Mill, the Total Building Performance Evaluation Method at Public Works Canada whilst on an Executive Interchange Program. Based on the R & D needs in building performance, Hartkopf has created and directs the Advanced Building Systems Integration Consortium (ABSIC), comprising leading building industries, six U.S. government agencies, two foreign governmental agencies and Carnegie Mellon.An award winning teacher and a frequent keynote speaker in Australia, Europe, Asia and the Americas, he has authored over 100 technical publications. He continues his consulting with such organizations as DaimlerChrysler, Volkswagen, Thyssen Krupp, Electricite de France, U.S. Department of State, U.S. Department of Energy, and Siemens.

Currently, Hartkopf is leading the Building as Power Plant (BAPP) project. The BAPP has been selected by the US Congress as the National Test-bed for Advanced Technology in Building. In September of 2007, Professor Hartkopf was elected Chairman of the United Nation's Environmental Programme (UNEP) Sustainable Buildings Construction Initiative's (SBCI) Think Tank in Washington, DC.

Kelly Hutzell
Caste Assistant Professor

Kelly Hutzell graduated from Roger Williams University in Bristol, Rhode Island with a Bachelor of Architecture degree and received a Master of Science in Architecture and Urban Design from Columbia University, where she was awarded the Lucille Smyser Lowenfish Memorial Prize and the William Kinne Fellows Memorial Traveling Prize.

Kelly has practiced architecture for a number of firms that specialize in urban design and cultural and institutional buildings, including her first position in Portland, Oregon for HOLST Architecture. Later moving to Boston, she worked at Schwartz/Silver Architects and then joined Machado and Silvetti Associates, where she worked on a proposal for the Motown Center in Detroit, a winning competition entry for Silver Spring Town Square in Maryland, and design and construction administration of Atelier 505 at the Boston Center for the Arts, McAllister Academic Village at Arizona State University, and Walker Hall at the Walton College of Business at the University of Arkansas in Fayetteville.

Kelly is currently a senior associate at over,under, a Boston-based multi-disciplinary design firm. She has served as a studio critic at the Massachusetts Institute of Technology, Rhode Island School of Art and Design, Boston Architectural Center and Roger Williams University. Kelly has held the Lucian and Rita Caste Chair at Carnegie Mellon University since 2005, teaching fifth-year urban design studios and a seminar entitled *Mapping Urbanism*, which has been awarded a CMU Global Education grant. In spring '08, she will teach *Mapping Urbanism*, and co-teach studio abroad and *Architecture for Non-Majors,* at the Carnegie Mellon campus in Doha, Qatar.

Donald Johnson, RA
Adjunct Assistant Professor

Donald Johnson is an adjunct assistant professor teaching first year design studio at Carnegie Mellon. He is a registered architect in New York and is currently practicing at Perkins Eastman Architects, PC in Pittsburgh, Pennsylvania. Donald received his Bachelor of Architecture degree, with honors, from Carnegie Mellon University in 1998, where he also received the American Institute of Architects Pittsburgh Chapter's Stewart L. Brown travel award. He received his Master of Architecture degree from Yale University in 2000.

Prior to relocating back to Pittsburgh in 2006, Donald was an associate and staffing coordinator at Robert A.M. Stern Architects, LLP in New York, New York. During his six years with the office he worked on a variety of master planning and architecture projects for mainly academic clients such as Acadia University in Wolfville, Nova Scotia; Harvard Business School in Boston, Massachusetts; and Harvard Law School in Cambridge, Massachusetts.

His work has been published in the Yale School of Architecture's *Retrospecta* and The Monacelli Press's CAC Hadid Studio Yale: Contemporary Art Center Zaha Hadid Studio 2000 Yale School of Architecture, for which he was a graphic designer. His work while at Robert A.M. Stern's office can be found in the monograph Robert A.M. Stern: Buildings and Projects 1999-2003, also published by The Monacelli Press.

Jeffrey King, AIA
Assistant Adjunct Professor

Jeffrey King completed his undergraduate and graduate studies in Architecture with a minor in Political Science at Tulane University in New Orleans. He then began a professional career that has taken him from Sydney, Australia to Washington DC, New York, Munich, Germany, Boston and now Pittsburgh. In previous professional experiences with Richard Meier and Partners, Agrest and Gandelsonas Architects and the Office of Peter Rose Architects, King developed a broad range of experiences managing commercial, civic, institutional and residential projects. He continues that experience now with Pittsburgh's EDGE Studio, whose commitment to the arts community and the future viability of Pittsburgh's downtown he shares. Current projects include a $60,000,000 renovation and expansion of the University of Pittsburgh's School of Engineering, a new athletic facility in Wexford, PA, offices and drug manufacturing facilities for a major specialty pharmaceutical firm, and numerous multi-family and single family residential projects throughout the Pittsburgh region.

Mr. King is currently involved with numerous community based projects for the continued improvement and redevelopment of Pittsburgh's North Side, where he resides. These include the redevelopment with new housing and commercial structures of the derelict Federal Street, once the North Side's busy hub, and implementation of a master plan for improvements and additions to Allegheny Commons park. He and his wife Jennifer and daughter Frances live in a renovated 1852 townhouse in the historic Mexican War Streets.

Mr. King has previously taught at Tulane University, Catholic University in Washington DC and the Boston Architectural Center, and has taught in CMU's fourth year since 2003. He is a licensed architect in Pennsylvania, New York and Massachusetts.

Jonathan Kline
Adjunct Assistant Professor

Jonathan Kline is a trans-disciplinary urbanist, artist, and teacher. Jonathan's work explores the nature of contemporary urban space and culture drawing on professional practice and training in architecture and urbanism, and complemented by a Master of Fine Arts in painting and drawing. Kline teaches design studios in the Urban Laboratory allowing students to engage with real communities in creating future visions for Pittsburgh neighborhoods. His community and urban design studios introduce students to contemporary urban design practice while striving to engage citizens, politicians and developers with students in exploring possible futures. Since 2002 he has worked to refine and develop the studio curriculum of the Urban Lab.

Jonathan practices urban design and architecture as a principal of the Studio for Spatial Practice in partnership with Christine Brill. Their work focuses on urbanism, landscape and community design with and emphasis on analyzing, representing, and intervening in large-scale spatial and cultural systems. Jonathan's work as an artist uses paintings, installations and community based projects to explore our potential immanent in our collective movement through the global networks, urban spaces, and instrumentalized territories of the early twenty-first century.

In addition to teaching, Jonathan is a Research Fellow at Carnegie Mellon's Remaking Cities Institute, working on projects to revitalize the Pittsburgh region. In 2004 he was an Associate Fellow at the STUDIO for Creative Inquiry acting as Planning Director for 3 Rivers 2nd Nature, an artist-led five year interdisciplinary research project focused on measuring and advocating for the health of the rivers and streams of Allegheny County. In 2000, he was one of the founders of the GroundZero Action Network, an arts and planning collective that brought together people in Pittsburgh to pursue projects that foster creativity, urbanism and the democracy. Upon completing his Bachelor of Architecture in 1998 he spent four and a half years in professional urban design practice working with the firm Urban Design Associates around the country on neighborhood master plans, downtown and urban waterfront planning, and new town planning.

Ramesh Krishnamurti, PhD
Professor
Associate Dean for Research, CFA

My area of research is in computational design with particular emphasis on the formal, semantic and algorithmic aspects of generative construction and the development of design as computation via highly coupled parallel explorations of form and description. I am, best known, for my work on computational problems in shape grammar theory and algorithms for spatial patterns.

My work has a multi-disciplinary flavor. I have worked on laser scanning and embedded sensor technologies within dynamically changing construction environments; generative design and sortal representations; object-agents in design environments; knowledge-based design systems; integration of natural language and graphics; spatial algorithms; robotic construction simulation; computer graphics and graphical programming environments; and user-interfaces for design applications and computer supported collaborative work. I am currently engaged in two research projects: predicting interior layouts of buildings from external features; and developing support tools for computer-aided deign of sustainable buildings.

My responsibilities include undergraduate + graduate teaching, and PhD advising. I currently teach shape grammars and computer programming, and have taught spatial constructions, geometrical modeling, animation, configurational design, symmetry, geometry, computer modeling, and user interface design.

This year, I became Associate Dean for Research with a remit to establish an Interdisciplinary Arts PhD program. I am also the Director, Studio for Creative Inquiry, a center for experimental and interdisciplinary arts, with the mission is to support creation and exploration in the arts, especially interdisciplinary projects that bring together the arts, sciences, technology, and the humanities, and impact local and global communities.

Kristen Kurland
Associate Teaching Professor

Kristen Kurland holds a joint faculty appointment at Carnegie Mellon University's H. John Heinz III School of Public Policy and Management and School of Architecture. Her focus at CMU includes technologies in the fields of Building Information Modeling (BIM), Computer Aided Design (CAD), Computer Aided Facilities Management (CAFM), and Geographical Information Systems (GIS.) In addition to her full time position at Carnegie Mellon, she is the president of a local consulting firm that has implemented CAD, CAFM, and GIS programs in numerous organizations since 1989. Her clients include architects, engineers, hospitals, universities, corporations, as well as local, state and federal government.

Kurland's research focuses on interdisciplinary collaborations in urban design, community participation and decision-making, health and the built environment, and spatial analysis using geographic
information systems. At the Heinz School, Kristen also teaches Infrastructure Planning to executive physicians in the Master of Medical Management (MMM) program and Health GIS in the Health Care
Policy Management (HCPM) program. She also has a strong interest in distance education and has been teaching through this medium for many years.

Ms. Kurland received the Heinz School's Martcia Wade award for teaching excellence in 2005. She also received the 1998, 2000, and 2003 Excellence in Education award from ARCHIBUS, Inc. for her CAFM teaching programs in the community and at Carnegie Mellon. Kurland was featured in CMU's Steinbrenner Institute for Environmental Education and Research (SEER), Spotlight on SEER Faculty, (Spring 2005) and in CMU Today (April 2007) where her research on childhood obesity was a feature article.

Khee Poh Lam, PhD, RIBA
Professor

BA in Architecture and Environmental Design (1979); B. Arch. (1982) University of Nottingham; Ph.D. in Architecture (1994) Carnegie Mellon University; Registered Architect (UK); Chartered Member of the Royal Institute of British Architects.

Khee Poh Lam teaches architectural design, acoustics and lighting, building performance modeling, as well as building controls and diagnostics. His fields of research include total building performance (TBP) studies and the development of computational design support systems. He has completed several major funded research projects, including Digital Building Models for Internet Collaborative Design Computing, Industry Building Product Model for Thermal Simulation, and Mapping of Sky Luminance Distribution and Computational Prediction of Daylighting Performance. Lam's work has been widely published, and he serves on the Board of Editors of the International Journal of Corporate Real Estate, USA, and previously in the International Advisory Board of the Journal of Lighting Research and Technology, UK. He is also a member of the Protocol Committee of the International Performance Measurement and Verification Protocol (IPMVP), USA.

Lam is also a building performance consultant for several major projects in the private and public sectors in Singapore. Significant projects where the Total Building Performance concept was applied include, (1) the Jurong Town Corporation (JTC) prototype stack-up factory complex; and (2) the new Urban Redevelopment Authority (URA) Building.

In 1998, Lam led a TBP team in an international design competition entry, working with T. R. Hamzah and Yeang for the proposed National Library Building in Singapore. The team won the competition. The building, completed in 2005, has been awarded "Platinum" rating for green building by the Building and Construction Authority, Singapore under the Green Mark Scheme. It also won the ASEAN Energy Award 2007.

Laura Lee, FAIA
Professor
Head, School of Architecture

Laura Lee, a faculty member in Carnegie Mellon University's School of Architecture since 1990, was appointed head of the school in July 2004. Laura taught courses in design studio, professional practice, and interdisciplinary arts on campus and abroad. In addition to her teaching experience at Carnegie Mellon, Laura has taught at the Higher Institute of Architecture in Antwerp, Belgium; Royal Danish Academy of Fine Arts in Copenhagen, Denmark; and the Swiss Federal Institute of Technology in Zurich, Switzerland. She has presented and published many papers and co-authored "Uncovering the City: Architecture Dialogues," an exhibit that traveled throughout the United States, Canada, and Europe.

Laura was appointed member of the AIA National Board Knowledge Committee, member of the AIA National Case Studies Work Group, and Past-Chair of the AIA National Educator/Practitioner Net. She has lectured and served on panels over the past several years for the AIA, AIAS, NCARB, and ACSA on issues concerning the relationship between education, internship, and practice. Her work focuses on the development and implementation of collaborative programs between the academy and the profession. She is a team chair for the National Architectural Accrediting Board.

Laura is the recipient Carnegie Mellon's highest teaching honor – The Ryan Award, in 2002. Nationally, she received the AIAS National Educator Award and recently received her Fellowship in the American Institute for Architects (FAIA) for advancing the science and art of building by advancing architectural education, training and practice. In January 2005, Laura was presented with the Henry van de Velde Institute Award for Architecture Education in recognition of her development of intercultural and interdisciplinary programs.

Cindy Limauro
Professor of Drama, Lighting Design

Cindy Limauro designs nationally and internationally in theatre, opera, dance and architecture. She is a member of United Scenic Artists (USA), the International Association of Lighting Designers (IALD) and was named a Fellow of the Institute by USITT for Outstanding Contribution to the Theatre.

In January 2007, Professor Limauro received the Henry van de Velde Award for Architectural Education from the Higher Institute of Architectural Sciences at the University of Antwerp for her contribution to Architectural Design education by promoting an interdisciplinary and intercultural approach. In 2006 the Carnegie Mellon alumni honored her with the Faculty Service Award for extraordinary commitment to education. In 2005 Professor Limauro was appointed the US representative on the Education Commission of OISTAT, the premiere international organization of scenographers, technicians and architects. She also serves on the Advisory Board of Live Design Magazine. She has been a featured speaker at the Architectural Lighting Master Classes in NY, Lightfair International, Lighting Dimensions International (LDI), USITT and the Prague Quadrennial. Her design work was displayed in two international exhibits: the 2007 Prague Quadrennial and World Stage Design in Toronto in 2005.

Professor Limauro led a group of international students in lighting famous landmarks in Prague which is published in the September 2007 issue of Lighting and Sound America. She received an Award for Outstanding Achievement in Lighting Design from the Illuminating Engineering Society of North America (IESNA) and an Award of Merit in the International Design Awards for her architectural lighting design work for the Carnegie Museum of Natural History's Hall of Dinosaurs.

Professor Limauro's lighting design work is published in the March 2006 issue of Stage Directions Magazine in an article titled "5 Remarkable Women in Theatre," *Scene Design and Stage Lighting* by Parker and Wolf, *Lighting the Stage* by Willard Bellman and the January 2001 issue of Lighting Dimensions Magazine.

Stephen R. Lee, AIA, LEED AP
Professor

Stephen Lee's activities focus on systems integration for high performance, sustainable commercial and residential architecture. The work involves issues of integrated design, system and material innovation and the innovative building delivery process. He is a LEED™ accredited professional and is currently providing sustainable design consulting services for institutional and commercial clients in Europe, Canada and the United States. Lee is co-founder and Principal Emeritus of the Pittsburgh architectural firm, TAI+LEE, Architects PC.

Innovative projects on which Lee has been involved include the Robert L. Preger Intelligent Workplace, the Susquehanna House (Armstrong World Industries), Government of Canada Building Prince Edward Island, the PA Department of Environmental Protection South Central Office Building, Phipps Conservatory, Pittsburgh Penguins Arena and Carnegie Mellon's New House, Henderson House and the Collaborative Innovation Center. His consulting work with the PA Department of Environmental Protection resulted in a new standard for healthy, flexible, adaptable and energy and environmentally effective buildings in the Commonwealth. Lee developed and conducted a year long, professional enrichment curriculum (2001) entitled, "High Performance Green Building" to the PA Departments of General Services and Environmental Protection and twelve nationwide workshops (2002) entitled, "Improving Customer Satisfaction and Building Performance", for the federal General Services Administration.

Lee's teaching activities have resulted in the integration of required undergraduate courses related to design, environment, materials, structures and construction and he is faculty adviser for the Carnegie Mellon Solar Decathlon team. He is the director of the Master of Science in Sustainable Design program.

Vivian Loftness, FAIA, LEED AP
University Professor

Vivian Loftness is an internationally renowned researcher, author and educator with over thirty years of focus on environmental design and sustainability, advanced building systems and systems integration, climate and regionalism in architecture, as well as design for performance in the workplace of the future. Supported by a university-building industry partnership, the Advanced Building Systems Integration Consortium, she is a key contributor to the development of the Intelligent Workplace - a living laboratory of commercial building innovations for performance, along with authoring a range of publications on international advances in the workplace.

She has served on seven National Academy of Science panels as well as being a member of the Academy's Board on Infrastructure and the Constructed Environment, and given three Congressional testimonies on sustainable design. Her work has influenced both national policy and building projects, including the Adaptable Workplace Lab at the U.S. General Services Administration and the Laboratory for Cognition at Electricity de France.

As a result of her research, teaching and professional consulting, Vivian Loftness received the 2002 National Educator Honor Award from the American Institute of Architecture Students and a 2003 "Sacred Tree" Award from the US Green Building Council. Vivian Loftness has a Bachelors of Science and a Masters of Architecture from MIT, and is on the National Boards of the USGBC and TSAC, AIA Communities by Design, Turner Sustainability, and the Global Assurance Group of the World Business Council for Sustainable Development. She is a Fellow of the American Institute of Architects and is a registered architect.

Arthur Lubetz, AIA
Adjunct Professor

Founder and president of Lubetz Architects, his point of view on architecture has guided the firm for 40 years. He was also a founding member of the Pittsburgh Community Design Center, Environmental Design Collaborative, and Past President of Preservation Pittsburgh.

For the past 20 years, Arthur has been an active adjunct professor in the school of architecture at Carnegie Mellon University, encouraging his students to think and rethink architecture and the experiences it defines. Recognized for creating memorable, experiential architecture, the firm has received positive critical reviews in the New York Times, The New York Post, and magazines including Architectural Record, Architecture Magazine, Skala, Institutions, Progressive Architecture, and Metropolitan Home.

Jennifer Lucchino, AIA
Adjunct Assistant Professor

Jennifer Lucchino AIA, principal and co-founder of inter*ARCHITECTURE, an design studio dedicated to the exploration and implementation of contemporary architectural expression through education, architecture and development.

Currently an Adjunct Assistant Professor at Carnegie Mellon University, Jennifer teaches First Year Design Studio. Jennifer has taught Pre-College Design Studio and Professional Practice and will coordinate a study abroad program in Venice scheduled for Summer 2008. Jennifer's professional experience includes employment by Damianosgroup, on a series of institutional projects such as an educational facility for the School for the Blind. Prior to this, she worked in California for the San Diego Padres as Architectural Advisor for Ballpark Planning for Petco Park completed in 2004. In addition, Jennifer worked with the Mattress Factory on early planning and design studies for their Office Expansion completed in Fall 2003. Upon graduation from architecture school in 1994, Jennifer gained employment at LDA/Astorino and worked as Project Manager on the Chapel of the Holy Spirit located at the Vatican. Other projects during her tenure at Astorino included UPMC Palermo and PNC Firstside Center.

Jennifer attended architecture school at Rice University where she graduated with an MArch degree in 1994. Her MArch thesis was entitled "Revealing the Intangible." Jennifer received her Bachelor of Arts from Georgetown University in 1988 with a major in Interdisciplinary Studies and a minor in Italian. Upon graduation, Jennifer studied at the University of Paris IV and received an annual diploma in language and civilization in 1989.

Dutch McDonald, AIA
Adjunct Assistant Professor

A native of rural Pennsylvania, Dutch MacDonald, AIA, graduated from Carnegie Mellon in 1991 with a Bachelors of Architecture. He is Vice President and a founding Principal of EDGE studio and an Adjunct Professor at Carnegie Mellon University, School of Architecture. MacDonald was accepted as a fellow of the Institute for Entrepreneurial Excellence at the University of Pittsburgh, completing executive seminars in 2003 and 2004.
Through has practice, MacDonald strives to create innovative and engaging environments for residential, cultural, and commercial clients. With over 16 years experience, he brings a history of solid project administration and an exceptional knack for articulating program concepts and client intentions. With a particular interest in the urban environment, Mr. MacDonald has spent much of his career directing projects that positively impact the city and urban living. He strives for innovative reuse of historic and industrial buildings and engaging environments for residential, commercial, and institutional clients.

In 1995, MacDonald co-founded EDGE studio as a diverse group of creative and experienced individuals focusing on integrating details and materials into technical building requirements in a manner that results in dynamic spatial expression. The firm's approach has merited a loyal client base and history of successful, award winning projects. EDGE studio now offers a broad range of diversified architectural services including Master Planning, Programming Analysis, Feasibility Studies, Building Design and Interior Architecture.

MacDonald's work has been published extensively in the Pittsburgh area and in such national publications as Dwell, Architectural Record, and Metropolitan Home. His work has been exhibited at the Heinz Architectural Center and the Mattress Factory, in Pittsburgh. The exhibit 'The New Hazlett Theater' focuses on the collaborative process between EDGE studio and two nationally renowned glass artist in the recreation of a theater lobby. It has been exhibited in Pittsburgh, and in the fall of 2007, at Florida Atlantic University where MacDonald will lecture.

Gerry Mattern, P.Eng
Adjunct Professor

G. A. Mattern was born in Attica Indiana. His father was a contractor, electrical HVAC and plumbing. In 1958 Mattern graduated from Rose Polytechnic Institute, now Rose Hulman Instititute, located in Terre Haute, Indiana with a BSEE degree. He worked for West Penn Power Co. as an Industrial Power Engineer from 1958 to 1963. He then became Product Manager for Electric Heating at Pittsburgh reflector Co. from 1963 to 1964. In 1964, he opened his own consulting firm.

He has maintained his own firm since 1964, and is still practicing. During this time he also taught the Professional Review Class for Penn State University and the Engineering section of the Architecture Review for the AIA Pittsburgh Chapter. He began teaching part time at CMU in 1982 and has continued since then.

Mick McNutt, AIA
Adjunct Assistant Professor

Mick McNutt, AIA works as a registered architect for EDGE studio and teaches as an adjunct faculty member at Carnegie Mellon University. During his several years of experience in various architectural firms he has contributed to the design of multiple building types including healthcare and education facilities, cultural institutions and commercial projects. His focus on urban design while studying at Syracuse University in New York and SU's International Program in Florence, Italy provided him with the necessary experience to produce intelligent and engaging architectural responses to the historical context and social condition of cities. His education experience prior to receiving his M Arch included the study of poetry and film (theory) at the University of Pittsburgh allowing him to develop a sharp critical eye and clear artistic sensibility.

Mick is currently involved in the renovation of Benedum Hall, the School of Engineering at University of Pittsburgh, which includes the centralization of classrooms and library into a Teaching / Learning Center, the reconstruction of laboratory floors and administrative offices, and a "green" addition for the Mascaro Sustainability Initiative.

As a native Pittsburgher and perpetual traveler, he enjoys the study of the urban condition via analyses of collective memory, psychogeographical context and other ephemera of the city, its narrative and its inhabitants.

Chris Minnerly, AIA
Adjunct Assistant Professor

Upon completing his Bachelor degree in Architecture from Cornell University in 1985, he has practiced architecture and urban design in New York, London and Pittsburgh. He currently is completing a Master of Architecture from Cornell University.

He has been invited to teach in the 1st, 2nd and 3rd year studios as an adjunct instructor at CMU over the course of the last several years. His research interests include theory, history and exploratory design processes.

He is a registered architect in the Commonwealth of Pennsylvania and the State of New York and is a principal at The Design Alliance Architects in Pittsburgh.

Mark Minnerly, RA
Adjunct Assistant Professor

Mark Minnerly currently serves as the Director of Real Estate for The Mosites Company in Pittsburgh, PA, as well as a project partner with Steven Mosites Jr. Mark is a registered architect who began his career in private practice. From architectural practice, his career broadened into community development where he served as the Director of Friendship Development Associates, a community development corporation focusing on community planning, banking advocacy and real estate development. Mark's work in Friendship lead to his appointment as program officer for the Pittsburgh Partnership of Neighborhood Development (PPND), a non-profit intermediary formed by Pittsburgh's leading philanthropies and financial institutions to support local community development corporations. While at PPND, Mark managed a program of investment which delivered over $20 million of real estate and community planning capital into community development projects that in turn yielded over $200 million in new investment in Pittsburgh's distressed neighborhoods. In 1998, Mark was recruited by HUD as part of Secretary Andrew Cuomo's core of Community Builder Fellows, where he facilitated cross-program collaborations within HUD and new collaboration between HUD, state, federal and local government agencies, and charitable and non-profit partners.

Aside from Mark's work in commercial and non-profit real estate development, he serves as adjunct faculty at Carnegie Mellon University teaching Real Estate Design and Development and has been a member of the City of Pittsburgh Design Review Committee and member of the Board of Directors of the Community Design Center of Pittsburgh.

Christine Mondor, AIA, LEED AP
Adjunct Assistant Professor

Christine Mondor is an eternal optimist regarding the power of design in our environment. She has been active in shaping the region's buildings and landscapes as an architect, educator and activist for over a decade. Her past projects have been recognized nationally and internationally and include the design of MAYAspace and Viz Offices in South Side Works, the new Entry Courtyard for Shady Side Academy's Rowe Hall, and the evolveHOUSE, a prototype for affordable sustainable living. She has explored sustainability at a variety of scales, from a 100,000 sf Food Bank that was one of the first 10 LEED Rated buildings in the nation, to a modest and beautifully detailed straw bale comfort station in rural Pennsylvania. Her consulting experience has helped companies like ALCOA, General Dynamics, and Phipps Conservatory bring sustainable ideas and practices to their organization.

Christine teaches architecture and landscape design at Carnegie Mellon University and at Chatham College and is currently developing the Sustainable Design Academy for Executive Education at CMU. She supports organizations that promote design and currently sits on the board of the Community Design Center. She has also contributed to Pittsburgh's reputation for excellence in sustainability as a board member of the Green Building Alliance and Three Rivers Association for Sustainable Energy (TRASE). Christine received her Bachelor of Architecture degree from Carnegie Mellon University and studied architecture and sustainable design in Scandinavia.

Jason Morris, AIA
Adjunct Assistant Professor

Jason Morris has been practicing architecture for ten years. After receiving a BARCH from the University of Tennessee in 1996, he began his career working in the offices of large architectural firms in Knoxville, TN, and Chicago, IL. A craving for the opportunity to explore personal architectural convictions led Jason back to school, and in 2004 he received a Master of Architecture from the Illinois Institute of Technology.

In 2004 Jason moved to Pittsburgh, PA, and is currently teaching first year design studios and studios in the pre-college program. He also has worked at DGGP Architecture in Pittsburgh as Project Manager for the Fred M. Rogers Center at St. Vincent College. Jason is a principal at the multi-disciplinary design firm SO-AD. SO-AD is an award winning, full service design agency providing architectural, graphic and digital design services. SO-AD's mission is to work within the moiré of architecture, technology and art.

Jason enjoys playing the guitar, working on his one hundred year old house, and spending as much time as possible with his one-year-old son, Elliot.

Irving J. Oppenheim, PhD, P.Eng
Professor

Oppenheim earned his engineering and graduate degrees at The Cooper Union, Lehigh University, and Cambridge University. He holds a full-time faculty appointment at Carnegie Mellon, jointly between the Department of Architecture and the Department of Civil and Environmental Engineering, since 1972. His background is in structural design, he is a Professional Engineer, and he frequently serves as a consultant for structural collapse investigations.

In his current research activities he develops MEMS devices (micro-electromechanical systems) as sensors for structural health monitoring, such as the detection of fatigue cracking in bridge members. Those research activities have led to field tests on railroad bridges and other major structures. In the recent past he studied tensegrity structures, truss optimization within computer graphics, and unreinforced masonry structures such as historical arches and domes. In past robotics research activities he studied applications to precast concrete building construction, spatial grammars to process robot operations in geometrically constrained environments, and the control of dynamically stable motion in the form of self-balancing robots. In earthquake engineering research he pioneered the seismic risk analysis of lifelines such as water and transportation systems, he studied the patterns of fire following earthquake, and he investigated the dynamic response of precast concrete buildings and masonry arches.

He is the author of 30 journal articles, more than 90 conference papers receiving critical review, and more than 50 other technical papers.

Matthew Plecity, RLA
Adjunct Assistant Professor

Matthew has practiced architecture for 4 years and landscape architecture for 9 years. He holds a Bachelor of Landscape Architecture from Virginia Tech and a Master of Architecture also from Virginia Tech. He is licensed to practice landscape architecture in the state of Delaware. He has a diverse background in building with architectural project experience in institutional, corporate office, university research facilities, innovative computer software facilities. His landscape architectural work has varied in scale and program from intimate residential gardens to urban and campus master planning.

Matthew has been employed by Bohlin Cywinski Jackson Architects in Pittsburgh since 2004. Prior to his graduate studies he was employed by Olin Partnership in Philadelphia from 1999 to 2001. During Matthew's tenure at Bohlin Cywinski Jackson, he has participated in all phases of design and construction for an array of projects. These include the Scripps Research Institute in Jupiter, Florida where, as project architect, he facilitated the necessary meetings to meet programming requirements and executed the design, detailing, and construction administration of the public spaces, offices, and research labs. He was part of the design team for the University of California Riverside Material Science and Engineering Building in Riverside, California where he led the design and detailing of large auditorium spaces and coordinated the landscape architecture and civil engineering. Matthew continues to manage several projects for the Greater Huntington Parks and Recreation Department in Huntington, West Virginia including the new playground at Ritter Park, the Rotary Park Shelters, and the Spring Hill Cemetery Mausoleum. While working with Olin Partnership Matthew was a project landscape architect and his work included Beringer Vineyards in St. Helena, California, the MIT Stata Center in Cambridge, Massachusetts , and the Master Plan for the University of Pennsylvania.

Luis Rico-Gutierrez
Associate Dean, CFA

Before coming to Carnegie Mellon, Rico-Gutierrez taught Urban Design and CAD at the Queretaro Campus of Monterrey Tech in Mexico. In 1995 he conceived and directed the “Distance Studio”, where students from CMU and Monterrey Tech were grouped in teams that made active use of videoconferencing for synchronous collaborative work and web based tools for asynchronous activities.

In 1996 he joined the School of Architecture, becoming a key player in the Urban Laboratory teaching graduate and undergraduate students to work with citizens, public agencies, and the private investment sector in making recommendations to improve the quality of life in our cities. In June of 2007, he was appointed Director of the Remaking Cities Institute, created to ensure and expand Carnegie Mellon’s leadership in education, community visioning, and research in the field of Urban Design.

He is Associate Dean of the College of Fine Arts since 2001 and served as Associate Head in the School of Architecture from 2001 until 2004. In these two roles, he advocates and supports new and exiting educational opportunities in pedagogy, research and practice that enhance the academic experience of students and faculty, and contribute to the quality of life in the region.

Rico-Gutierrez got his professional degree in Architecture at the Monterrey Tech in Mexico, he completed graduated studies in design and social housing at the Leoz foundation in Madrid, Spain, he has a Master in Building performance from Carnegie Mellon University where he is currently completing his Ph.D. in Computer Supported Collaborative Design.

Paul Rosenblatt, AIA
Adjunct Associate Professor

Paul Rosenblatt is an award-winning architect/artist and a nationally recognized expert on museum architecture. He is Principal of SPRINGBOARD Architecture. Rosenblatt studied at Yale, double majored in art and architecture, and received bachelors and masters degrees with honors. He has taught at Carnegie Mellon since 1987, currently teaching an interdisciplinary elective, "Under the Influence: Architecture and Art."

Rosenblatt is known for the architecture of museums, community centers, and university buildings. His Maridon Museum and Children's Museum Waterplay Environments were exhibited at the National Academy of Design where Rosenblatt was awarded the Orville Lance Prize. Architecture critic Patricia Lowry described The Maridon Museum as "a gleaming little gem of a museum," while Metropolis magazine's Andrew Blum said that SPRINGBOARD's Waterplay project "fits into the space like an art installation." The Pittsburgh Post-Gazette has called SPRINGBOARD "an indicator of the progressive direction Pittsburgh is moving in."

Current projects include The Boyd Community Center (30,000sf new building), Backus Museum of Art (20,000sf new building), and Carnegie Mellon University's Tartans Pavilion (5,000sf new building).

Rosenblatt has exhibited artwork at The Mattress Factory and was included in the 2003 Pittsburgh Biennial. His one-man-show at The Mesaros Galleries at West Virginia University was documented by the book, "Omnivorous: The Art and Architecture of Paul Rosenblatt and SPRINGBOARD."

Paul Rosenblatt has received a variety of local and national awards. The Pittsburgh Business Times recently selected him as one of 50 "Fast Trackers" in recognition of outstanding contributions to profession and community.

Charles Rosenblum
Adjunct Assistant Professor

Charles Rosenblum is a historian, critic and journalist writing about the built environment and visual arts. He has degrees from Yale University and the University of Virginia, for whom he is completing a Ph.D. with a dissertation on the architecture of Henry Hornbostel.

Rosenblum has taught in the Department of Architecture at Carnegie Mellon's since 1998. He teaches in Modern Visual Culture in Carnegie Mellon's Department of Art. He also taught history and theory of Modern Art at Indiana University of Pennsylvania.

Rosenblum is the architecture critic for the *Pittsburgh City Paper* and a regular contributor to the Pittsburgh History and Landmarks Foundation *Newsletter*. He has written frequently for publications including *Architectural Record, The Frank Lloyd Wright Quarterly, Texas Architect,* and *Preservation*. His essays appear in several books, including *Henry Hornbostel: An Architect's Master Touch,* published by Roberts Rinehart; *Invisible Giants*, published by the Oxford University Press; and *Icons of Architecture: The Twentieth Century,* published by Prestel-Verlag.

As a business and professional writer, Rosenblum has worked for William McDonough + Partners of Charlottesville, VA; Cesar Pelli & Associates of New Haven, CT; and Arthur Lubetz Associates of Pittsburgh, PA.

Rosenblum was curator of the exhibition "Precedent and Principle: The Pennsylvania Architecture of Peter Berndtson and Cornelia Brierly," shown at the Associated Artists of Pittsburgh Gallery in 1999. He has also worked as a freelance research associate for the Heinz Architectural Center at the Carnegie Museum of Art.

Daniel Rothschild, AIA
Adjunct Associate Professor

Daniel Rothschild was educated at Miami University where he received his Bachelor of Environmental Design. During his junior year he studied at the Architectural Association in London. He continued his studies at North Carolina State University, where he received his Master's of Architecture degree, graduating with top honors in class by receiving the AIA School Medal for Excellence.

Rothschild moved to Pittsburgh in 1982 and became a registered architect in 1984. He began his own company, Rothschild Architects, in 1984. In 1998 the firm became Rothschild Doyno Architects with the addition of Kenneth Doyno as Partner.

The firm is best known for their focus on the design process, using their Design Sketchbook Process. This process utilizes an 8 ½" x 14" graphic format to collaborate with their clients, and is displayed on their website www.rdarch.com. The firm is also known for their context responsive design that intentionally draws inspiration from social and physical site forces in order to create more meaningful design solutions. During their 19 years in business, the firm has won several design awards as their company has grown and prospered. They will move into their new office headquarters development located in the Strip District neighborhood of Pittsburgh in January of 2008.

Rothschild began teaching at Carnegie Mellon University in 2003, and became President of AIA Pittsburgh the same year after serving five years on its Board of Directors. Dan is presently in the final year of his board term

Raymund Ryan
Adjunct Assistant Professor

Raymund Ryan is Curator at the Heinz Architectural Center at the Carnegie Museum of Art. His exhibition *Gritty Brits: New London Architecture* – accompanied by a catalogue with text by Ryan and by Iain Sinclair – was on exhibit in Pittsburgh, January 20–June 3, 2007 and tours to the University Art Museum, UC Santa Barbara, and November 1, 2007–January 20, 2008. Previous exhibitions at the Heinz Architectural Center include *Pittsburgh Platforms* (Summer 2003), *Michael Maltzan: Alternate Ground*, (Spring 2005), and *Frank Lloyd Wright: Renewing the Legacy* (Fall 2005).

A graduate of University College Dublin (B. Arch, 1981) and Yale (M. Arch, 1987), Ryan has worked for architects Kevin Roche (1981–1983), Terry Farrell (1984) and Arthur Erickson (1987–1990) in New Haven, London, and Los Angeles respectively. From 1990 to 1992, he was co-director of the Urban Design Group of Ireland's National Building Agency. He taught at the School of Architecture, University College Dublin from 1993 to 2003 whilst simultaneously collaborating on several projects in Belgium.

Ryan was Ireland's Commissioner for the Venice Architecture Biennale in 2000 and 2002 (selected architects: Tom de Paor and Bucholz McEvoy). He is the author of *Cool Construction* (Thames & Hudson, 2001) and co-author of *Building Tate Modern* (Tate Publishing, 2000) as well as keynote essayist for catalogs in Ireland, Britain, Belgium, Germany, Switzerland, Japan, and USA. He is a regular contributor to several magazines including *Architecture Ireland* (Dublin), *The Architectural Review* (London), *Blueprint* (London), *Domus* (Milan), and *The Plan* (Bologna).

Diane Shaw, PhD
Associate Professor with tenure

Diane Shaw received her Ph.D. in Architectural History from the University of California at Berkeley in 1998, and holds a masters degree in American Studies from George Washington University and a baccalaureate in History from Smith College. Shaw's work emphasizes the social aspects of urban and architectural landscapes. Always asking "why did they do that?" her history courses in American architecture, Central American architecture, and historic preservation all inquire into the cultural meaning of the built environment.

Shaw's research focuses on the vernacular architecture and urbanism of the U.S. Her book City Building on the Eastern Frontier: Sorting the New 19th Century City (Baltimore: Johns Hopkins University Press, 2004) shows the creative depth to which the business leaders were able to sort urban space – geographically, functionally, architecturally, and socially – as a means of settling and ordering the raw new cities of the New York interior. She is currently researching the early 20th-century village improvement movement as a New England response to the threats of urbanization and economic decline. In 2007 she was awarded a Ferguson Jacobs Prize to continue that research. Shaw's articles and reviews have appeared in Perspectives in Vernacular Architecture, the Journal of the Society of Architectural Historians, the Journal of Medieval and Early Modern Studies, the Journal of Urban History, The Public Historian, and the Journal of Urban History.

Shaw has served as a board member of the Vernacular Architecture Forum, and was series editor for the "Vernacular Architecture Series", published by the VAF and the University of Tennessee Press, which published Thomas Carter and Elizabeth C. Cromley's "Invitation to Vernacular Architecture: A Guide to the Study of Ordinary Buidlings and Landscapes (2005). She has also served as a member of the Advisory Board to the Bureau of Historic Preservation within the Pennsylvania History and Museum Commission, and was appointed Chair in 2005-2006.

Scott Smith
Director, Metal and Wood Shop

Scott has a BFA in sculpture from Carnegie Mellon University where he also took courses in ceramics, photography, and printmaking, and cinema. He also holds a MFA in sculpture from Cranbrook Academy of Art. After Cranbrook he returned to Pittsburgh and joined a cooperative shop of CMU graduates and technicians who made furniture and cabinets.

As he developed his craft and woodworking skills he secured major commissions with corporations in Pittsburgh as well as with private clients. During this time he continued to make sculpture and began to consider the sculptural qualities of furniture. As a member of the Associated Artists of Pittsburgh, The Society of Sculptors, and the Craftsmen Guild of Pittsburgh he entered many group shows and won prizes for both his sculpture and furniture.

In 1982 he married his wife, Peg Hart, an architect and graduate of CMU. In 1984 the started managing the architecture shop and teaching first year students. Two years later he created the furniture making elective and the shop independent study. Scott has led special teaching projects including building museum quality architectural models for the Carnegie for three separate exhibitions, two design build projects for local arts institutions, and most recently, furniture for Carnegie Mellon's Solar Decathlon house.

Kent Suhrbier, AIA, LEED AP
Adjunct Assistant Professor

Kent Suhrbier is a Principal with dggp Architecture, Pittsburgh, Pennsylvania. dggp Architecture is a nationally recognized design firm that combines architectural design quality with environmental innovation. Kent's diverse project experience is centered on a design process that develops solutions with sensitivity to the larger environment, explores the unique opportunities of each project site, and responds to the specific needs of the individual client. This design rigor has been refined through principal and managing roles in a series of award-winning projects including work for Apple Computer, Macromedia, MAYA Design, Yale University, Saint Vincent College, and private residences.

Prior to joining dggp Architecture in 2006, Kent was a founding Principal of evolve environment architecture and worked for eight years as an Associate with Bohlin Cywinski Jackson.

Kent has taught architectural design studios at Carnegie Mellon University since 2000. He has taught fourth year design studio, third year design studio, and taught and coordinated the first year foundation curriculum. He received his Bachelor of Architecture degree from Carnegie Mellon University in 1992 with college and university honors. Kent is a registered architect in the state of Pennsylvania.

Francesca Torello
Adjunct Assistant Professor

Francesca Torello is an Architectural and Urban Historian and a registered Architect. Her research work is focused on the role of Architecture, Urban Culture and Heritage Preservation policies in the cultural debate of the Nineteenth and Twentieth century.

She graduated in 1998 at the Faculty of Architecture of the Politecnico di Torino (Italy), with an award-winning thesis on the history of heritage policies in France and Italy.

She has a Master from the Metropolis Program of the Universitat Politecnica de Catalunya, Barcelona, Spain, where she dealt with some issues of the contemporary debate on architecture, visual culture and the city in the research project Dominating the conflict: visual fragmentation and the image of the democratic city.

In 2003 she earned a PhD in History and Heritage Preservation from the Politecnico di Torino (Italy). Her dissertation The transformations of a capital city. Cultural debate and protagonists. Vienna 1848-1891 was researched at the Technische Universität in Vienna, where she also received a mention in the frame of the Josef Frank Stipendium of the Österreichische Gesellschaft für Architektur.

She has recently worked as well on issues of landscape preservation and design, as member of the board of Creare Paesaggi, an international conference organized with the Biennal de Paisaje de Barcelona.
After many years at the Politecnico di Torino as a research fellow, from the Fall of 2007 she will be teaching at the School of Architecture of the Carnegie Mellon University in Pittsburgh, PA.

Spike Wolff
Adjunct Assistant Professor

Spike Wolff has a Bachelor of Fine Arts with a sculpture concentration from Carnegie Mellon University, and a Master of Architecture from SCI-Arc, the Southern California Institute of Architecture. Spike's interests in design blur the distinction between art and architectural space.

Spike moved back to Pittsburgh from Los Angeles, where she lived and worked for fourteen years. Her experience includes work on museum projects, such as The Getty Center and Museum (with Richard Meier & Partners) and exhibition design for the Museum of Contemporary Art in Los Angeles (with Hodgetts+Fung). Spike worked on the historic restoration of two seminal modernist homes, the Kaufmann House by Richard Neutra and the Loewy House by Albert Frey (with Marmol+Radziner). She also has experience on the design of acoustic environments and recording studios, including The Record Plant, C+C Music Factory and a home studio for Ice-T (with Studio Bau:ton Architects).

Spike currently works independently as a freelance designer in Pittsburgh. Recent work includes the design of a new space for the Hurricane, a temporary jazz club for the Hill House Association in Hill District, the redesign of the Hurricane as a featured venue at the annual Sprout Hothouse event, and exhibition design of a large-scale panorama by painter Felix de la Concha for the Frick Art Museum in Pittsburgh.

Spike is currently an Adjunct Assistant Professor of Architecture at Carnegie Mellon University, teaching the undergraduate Second year Core Design Studio in the fall and spring, as well as Pre-College design studio in the summer.

Appendix B _ Faculty Resumes

APPENDIX B _ School of Architecture Faculty: Teaching and Practice

Last Name	First Name	Rank	Teaching Area	Teaching Area	Practice
Akin	Omer	Professor	Practice Management	Design	
Arscott	MaryLou	Adjunct Associate Professor	Design		
Aurand	Martin	Sr. Arch Librarian Archivist			
Aziz	Azizan	Senior Researcher, CBPD	Environmental Technology		
Boykowycz	Walter	Adjunct Professor	Design		
Brill	Christine	Adjunct Assistant Professor	Design		
Bucco	Teresa	Adjunct Assistant Professor	Design		Sarah Drake Architect
Burns	David	Adjunct Assistant Professor	Design	Digital Media	SO-AD
Calisti	Lee	Adjunct Assistant Professor	Design		lee CALISTI architecture + design
Carlough	Gary	Adjunct Professor	Design		EDGE Studio
Coohill	Joe	Adjunct Assistant Professor	Architectural History		
Cooper	Doug	Andrew Mellon Professor	Drawing		
Damiani	Gerard	Adjunct Professor	Design		studio d'ARC architects
Davis	Jeffrey	Adjunct Associate Professor	Design		dqqp Architecture
Doyno	Ken	Adjunct Associate Professor	Design		Rothschild Doyno Architects
Drake	Sarah	Adjunct Assistant Professor	Design		Sarah Drake Architect
el Samahy	Rami	Adjunct Assistant Professor	Design	Urbanism	over,under
Ficca	Jeremy	Assistant Professor	Design	Digital Fabrication	Ficca Architecture
Fineout	Matt	Adjunct Assistant Professor	Design		EDGE Studio
Fisher	Eric	Adjunct Assistant Professor	Design		Fisher Architecture
Gannon	Kevin	Adjunct Associate Professor	Design		dqqp Architecture
Goettel	Sheldon	Adjunct Professor	Design		Perfido Weiskopf Architects
Golli	Jonathan	Adjunct Assistant Professor	Design		EDGE Studio
Gross	Mark	Professor	Comp. Design & Robotics	Design Research	
Gutschow	Kai	Assistant Professor	Design	Architectural History	
Gwin	Michael	Adjunct Assistant Professor	Design		Bohlin Cywinski Jackson
Hartkopf	Volker	Professor, Director CBPD	Environmental Technology	Design	
Hokanson	Erik	Adjunct Assistant Professor	Design		Pfaffmann + Associates
Hutzell	Kelly	Caste Assistant Professor	Design	Urbanism	over,under
Johnson	Donald	Adjunct Assistant Professor	Design		Perkins Eastman
King	Jeffrey	Adjunct Assistant Professor	Design		EDGE Studio
Kline	Jonathan	Adjunct Assistant Professor	Design		
Krishnamurti	Ramesh	Professor	Computational Design		
Kurland	Kristen	Associate Teaching Professor	Digital Media	Health + Built Enviro.	
Lam	Khee Poh	Professor	Environmental Technology	Design	
Lee	Laura	Professor, Head	Design	Practice	
Lee	Stephen	Professor	Building Technology	Design	Tai + Lee Architects
Limauro	Cindy	Professor, Drama	Lighting Design		
Loftness	Vivian	University Professor	Environmental Technology	Design	
Lubetz	Arthur	Adjunct Professor	Design		Arthur Lubetz Architects
Lucchino	Jennifer	Adjunct Assistant Professor	Design		inter*ARCHITECTURE
MacDonald	Dutch	Adjunct Assistant Professor	Practice	Design	EDGE Studio
Mattern	Gerry	Adjunct Professor	Building Technology		
McNutt	Mick	Adjunct Assistant Professor	Design		EDGE Studio
Minnerly	Chris	Adjunct Assistant Professor	Design		The Design Alliance
Minnerly	Mark	Adjunct Assistant Professor	Real Estate		The Mosites Company
Mondor	Christine	Adjunct Assistant Professor	Building Technology	Design	evolveEA
Morris	Jason	Adjunct Assistant Professor	Design		SO-AD
Oppenheim	Irving	Professor	Building Technology		
Plecity	Matthew	Adjunct Assistant Professor	Design		Bohlin Cywinski Jackson
Reid	Robert	Adjunct Assistant Professor	Physics		
Rico-Gutierrez	Luis	Associate Dean, CFA	Urban Design		
Rosenblatt	Paul	Adjunct Associate Professor	Practice	Theory	SPRINGBOARD Architecture
Rosenblum	Charles	Adjunct Assistant Professor	Architectural History	Theory	
Rothschild	Dan	Adjunct Associate Professor	Urban Design		Rothschild Doyno Architects
Ryan	Raymund	Adjunct Assistant Professor	Design	Theory	Heinz Architectural Center
Shaw	Diane	Associate Professor	Architectural History		
Smith	Scott	Director, Shop	Shop Fabrication		
Suhrbier	Kent	Adjunct Assistant Professor	Design		dqqp Architecture
Torello	Francesca	Adjunct Assistant Professor	Architectural History		
Wolff	Spike	Adjunct Assistant Professor	Design		spikestudio

APPENDIX B _ Faculty Résumés

Administration

Head	Laura Lee	FAIA
Director, Graduate Program	Mark Gross	PhD

Faculty

Tenured		
Professor	Omer Akin	PhD, RA
Andrew Mellon Professor	Doug Cooper	
Professor	Mark Gross	PhD
Professor	Volker Hartkopf	PhD
Professor, Associate Dean	Ramesh Krishnamurti	PhD
Professor	Khee Poh Lam	PhD, RIBA
Professor	Laura Lee	FAIA
Professor	Stephen Lee	AIA, LEED AP
University Professor	Vivian Loftness	FAIA, LEED AP
Professor of Engineering (joint appt.)	Irving Oppenheim	PhD, P.Eng
Associate Professor	Diane Shaw	PhD
Tenure Track and Full-Time Chair		
Assistant Professor	Jeremy Ficca	AIA
Assistant Professor (begins 2008)	Pablo Garcia	
Assistant Professor	Kai Gutschow	PhD
Caste Assistant Professor	Kelly Hutzell	
Teaching Track		
Associate Teaching Prof. (joint appt.)	Kristen Kurland	
Special Appointments		
Adjunct Professor of Practice	Gerard Damiani	AIA
Adjunct Assistant Professor	Jonathan Kline	
Adjunct Assistant Professor	Christine Mondor	AIA, LEED AP
Special Faculty, Associate Dean	Luis Rico-Gutierrez	
Adjunct		
Adjunct Professor	Walter Boykowycz	AIA
Adjunct Professor	Gary Carlough	AIA
Adjunct Professor	Sheldon Goettel	AIA
Adjunct Professor	Arthur Lubetz	AIA
Adjunct Professor	Gerry Mattern	P.Eng
Adjunct Associate Professor	MaryLou Arscott	RIBA
Adjunct Associate Professor	Jeffrey Davis	AIA, LEED AP
Adjunct Associate Professor	Ken Doyno	AIA
Adjunct Associate Professor	Kevin Gannon	AIA, LEED AP
Adjunct Associate Professor	Paul Rosenblatt	AIA
Adjunct Associate Professor	Dan Rothschild	AIA
Adjunct Assistant Professor	Christine Brill	RA
Adjunct Assistant Professor	Teresa Bucco	RA
Adjunct Assistant Professor	David Burns	
Adjunct Assistant Professor	Lee Calisti	AIA
Adjunct Assistant Professor	Joseph Coohill	PhD
Adjunct Assistant Professor	Sarah Drake	AIA
Adjunct Assistant Professor	Rami el Samahy	
Adjunct Assistant Professor	Matt Fineout	AIA
Adjunct Assistant Professor	Eric Fisher	AIA
Adjunct Assistant Professor	Jonathan Golli	
Adjunct Assistant Professor	Mike Gwin	AIA, LEED AP
Adjunct Assistant Professor	Erik Hokanson	AIA
Adjunct Assistant Professor	Don Johnson	RA
Adjunct Assistant Professor	Jeff King	AIA
Adjunct Assistant Professor	Jennifer Lucchino	AIA
Adjunct Assistant Professor	Mick McNutt	AIA
Adjunct Assistant Professor	Dutch MacDonald	AIA
Adjunct Assistant Professor	Chris Minnerly	AIA
Adjunct Assistant Professor	Mark Minnerly	RA
Adjunct Assistant Professor	Jason Morris	AIA
Adjunct Assistant Professor	Matt Plecity	RLA
Adjunct Assistant Professor	Robert Reid	PhD, P.Eng
Adjunct Assistant Professor	Charles Rosenblum	
Adjunct Assistant Professor	Kent Suhrbier	AIA, LEED AP
Adjunct Assistant Professor	Francesca Torello	PhD
Adjunct Assistant Professor	Spike Wolff	

Courtesy Appointments		
Associate Professor of Engineering	Susan Finger	PhD, P.Eng
Professor of Drama	Cindy Limauro	
Adjunct Assistant Professor	Raymund Ryan	
Professor Emeriti		
Professor	John Eberhard	FAIA
Professor	Ulrich Flemming	PhD
Professor	Delbert Highlands	RA
Distinguished Teaching Professor	David Lewis	FAIA

Programs

Bachelor of Architecture		
First-Year	G.Damiani/D.Cooper, Coord.	
Second-Year	K.Gutschow, Coordinator	
Third-Year	C.Mondor/S.Lee, Coordinators	
Fourth-Year	O.Akin/K.P.Lam, Coordinators	
Fifth-Year	J.Kline/G.Damiani, Coordinators	

Master Degrees		
MS Arch. Eng. Const. Mgt.	Omer Akin	Chair
MS Architecture	Kee Poh Lam	Chair
MS Bldg. Performance	Volker Hartkopf	Chair
MS Computational Design	Mark Gross	Chair
MS Sustainable Design	Stephen Lee	Chair
Master of Urban Design	Vivian Loftness	Chair

PhD Degrees		
PhD Arch. Eng. Const. Mgt.	Omer Akin	Chair
PhD Computational Design	Ramesh Krishnamurti	Chair
PhD Building Performance	Volker Hartkopf	Chair

Outreach Programs	
Architecture Explorations Pre-College Program	Kelly Docter, Coordinator
Summer Internship for Diversiy (SID)	Omer Akin, Coordinator

Centers / Institutes / Labs

Center for Building Performance and Diagnostics	
Director	Volker Hartkopf
Assistant to the Director	Sharilynn Jarrett
Professor	Khee Poh Lam
Professor	Steve Lee
Professor	Vivian Loftness
Engineering Consultant	David Archer
Senior Researcher	Azizan Aziz, LEED AP
Researcher	Sophie Masson
Researcher	Hongxi Lin
Technician	Jim Jarrett

Computational Design Lab (CoDe Lab)	
Director	Mark Gross

Digital Fabrication Lab	
Director	Jeremy Ficca

Remaking Cities Institute	
Director	Luis Rico-Gutierrez

Sustainable Design Academy Executive Education	
Director	Christine Mondor

Wood and Metal Shop	
Director	Scott Smith

Faculty

Tenured	11	(10.5 FTE)
Tenure Track/Full Time	3	(3 FTE)
Teaching Track	1	(.5 FTE)
Special Appointment	4	(3 FTE)
Adjunct	37	(10 FTE)
Courtesy Appointment	3	(0 FTE)
Joint Appointment	2	(0 FTE)
Emeriti	4	(0 FTE)

PhD	11
FAIA	2
AIA	26
RA	5
RLA	1
RIBA	2
P.Eng	3
LEED AP	8

27 FTE:274 Students = 1:10 Faculty to Student Ratio

Ömer Akın, PhD, RA
Professor

Teaching Area
Design, Practice

Courses

48.401	Architectural Design: Occupancy • Units 18 • F03, Su03, F05, F07 • Required
48.551	Ethical Decision Making in Architecture • 9 units • S99 – S07 • Required
48.711	Paradigms and Methods of Research in Architecture • 9 units • F89 – F07 • Required
48-759	Value-Based Design in AEC • Units 12 • S03 – S07 • Required

Educational Background

1973-1979	Ph.D. in Architecture, Department of Architecture, Carnegie Mellon University Dissertation title: Models of Architectural Knowledge: An Information Processing View of Design
1970-1973	Master of Architecture in Environmental Systems; School of Architecture, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. Masters Thesis: Contextual Fittingness of Everyday Activity Encounters
1968-1970	Master of Architecture, Faculty of Architecture, Middle East Technical University, Ankara, Turkey Masters thesis: A Theoretical Basis for Campus Design: A Case Study in Adana
1964-1968	Bachelor of Architecture, Faculty of Architecture, Middle East Technical University, Turkey

Honors and Creative Work

2007	Guest Editor for a special issue of the *Journal of Automation in Construction* on "Testbeds for Advance Building Infrastructure Systems Research." Chief Editor of a new quarterly journal called *Building Ethics Quarterly (*BEQ) by Intellect Publishers, Intellect Ltd, PO Box 862, Bristol BS99 1DE. Ferguson Jacobs Prize, School of Architecture, Carnegie Mellon.
2006	CAS (Center for the Arts in Society) research prize on "Archi-babble." Keynote speaker for the AEC 2008, the 5th International Conference on "Innovation in Architecture, Engineering, and Construction" Antalya, Turkey, in June 16-18, 2008. Leader of the Research Training Sessions on Design Cognition for Sint-Lucas School of Architecture at Brussels, Belgium, during August 22-25, 2007.
1998 – present	Member, Institute of Complex Engineered Systems (ICES), Carnegie Mellon University.

Academic Positions and Experience

2006	Developed a new PhD degree program in AEC Management
2004	Chair of the Generative-CAD Symposium held at Carnegie Mellon University
1987-present	Professor, Department of Architecture, Carnegie Mellon University

Professional Practice and Membership

2003	Lisa Andersen House addition, Silver Spring, MD
2002 - present	Architect of record for the Turkish Nationality Room project
1968, 1979	Registered Architect, USA since 1979 and Turkey since 1968

Research Awards

2006	"Workshop for the Investigation, Documentation, and Dissemination of National Science Foundation Research Validation Testbeds at the National Institute of Standards and Technology" Submitted to: Chema De La Garza, National Science Foundation. Proposed by Ömer Akın, and James H. Garrett, Jr. (amount funded: $55,000). "Embedded Commissioning for Improved Building Operations and Maintenance: Case Studies, Data Models and Exchange for Interoperability," Phase II funded by the National Institute for Standards and Technology (amount funded for 2004-5: $300,000).
2005	"An Integrated Approach for Interpreting and Fusing Building and Mobile Sensor Streams in a Facility into High-Level Information" Submitted to: Kent Reed, National Institute for Standards and Technology. Proposed by Ömer Akın, Burcu Akıncı, and James H. Garrett, Jr. (amount funded: $350,000). "Embedded Commissioning for Improved Building Operations and Maintenance: Case Studies, Data Models and Exchange for Interoperability," new award by the National Institute for Standards and Technology (amount funded for 2004-5: $200,000).

Scholarship

2007 "Role of Requirements in Design Education n the Studio" in *Journal of Design Research* (in review) with Halime Demirkan.
"Tool Support for Computer-Aided Requirement Traceability in Architectural Design" in the *Journal of Automation in Construction*, with Ipek Ozkaya.
"Evaluation Methods for Building Product Models: Measuring the Performance of Building Commissioning Data Model" *American Society of Civil Engineers – Computing Conference*, Carnegie Mellon University, Pittsburgh, PA with Tanyel Turkaslan-Bulbul.
"Providing Computer-Aided Requirement Traceability Support for the Architecture Design Life-Cycle" *ICEBO Conference*, San Francisco, with Ipek Ozkaya.
"Embedded Commissioning for Improved Building Decision Support" *ICEBO Conference*, San Francisco, with Burcu Akinci, James Garrett, Tanyel Bulbul, Sanghoon Lee, Hongjun Wang.

2006 *A Cartesian Approach to Design Rationality* the METU Press, Ankara, Turkey.
"Requirement-driven design: assistance for information traceability in design computing" in *Design Studies*, 27, 3 (2006), pp. 381-398 with Ipek Ozkaya.
"Computational Support for Building Evaluation: Embedded Commissioning Model" in *Journal of Automation in Construction* with Tanyel Turkaslan-Bulbul.
"The Whittled Design Space" in *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* archive Volume 20 , Issue 2 (April 2006).

2005 "Why is formal notation helpful in design-cognition and computation research?" in *Design Studies*, with Hoda Moustapha.
"Use of requirement traceability in collaborative design" in *CoDesign*, with Ipek Ozkaya.
"Mixing One's Domains: Architecture Plus Software Engineering" in Proceedings of *eCAADe 2005*, Lisbon, Portugal, September 21-24, 1005, with Ipek Ozkaya.
"Embedded Commissioning for Building Design" in Proceedings of *ICEBO-2004*, Paris, October 14-18, 2004, with Tanyel Turkaslan-Bulbul, Ipek Gursel, James H. Garrett Jr, Burcu Akinci, and Wang.
"Teaching to think in software terms: an interdisciplinary graduate software requirement engineering course for AEC students" in Proceedings of *International Conference on Computing in Civil Engineering*, Cancun, Mexico, July 11-15, 2005, with Ipek Ozkaya and James Tomayko.
"Linking Building Commissioning and Operations and Maintenance towards an Embedded Commissioning Practice," in Proceedings of *ICEBO 2005 Conference*, Pittsburgh, PA, USA, October 15-17, 2005, with İpek Gürsel.

Public and Invited Speaking

2007 ASCE (American Society of Civil Engineers) – CRC (Construction Research Council) Annual Meeting, CMS Information Infrastructure Systems Proposal Workshop speaker, Grand Bahamas Island, May 6-8, 2007.
"Process Models For Cx: Versions Based on ASHRAE, Annex-40 and IDEF Diagrams" ANNEX-47 entitled "4th Working Meeting: Cost-Effective Commissioning for Existing and Low Energy Buildings," of the Energy Conservation in Buildings and Community Systems (ECBCS), International Energy Agency (IEA), Budapest, Hungary, April 23-26, 2007.

2006 "Embedded Cx Approach: Challenges in Product and Process Modeling for Cx," ANNEX-47 entitled "3rd Working Meeting: Cost-Effective Commissioning for Existing and Low Energy Buildings," of the Energy Conservation in Buildings and Community Systems (ECBCS), International Energy Agency (IEA), Shen Zhen and Hong Kong, PRC, November 9-10, 2006.
"NSF-NIST Advanced Building Infrastructure Testbed" workshop, Co-chair, September 24-26, 2006, Howard University, Washington, D.C. and NIST, Gaithersburg, MD.

2004 "CAD@CMU" opening remarks, GCADS-04 conference, Pittsburgh, PA, USA, July 12
"Fundamental Tenets for Architectural Ethics" ACSA Teacher's Conference, Cranbrook.
"eXtreme Design" keynote at ITC@EDU Workshop, Istanbul Technical University 11.
Three Public Lectures: "Building Intelligence" "Devil is in the Detail: 114 Dead in Kansas City" "I'm Not Rem Koolhaas" at METU, Kubbe Alti, November 3, 24 and December 1
Three Public Lectures: "Building Intelligence" "eXtreme Design" Bilkent University, Nov 13

Service

2007	Chair Colloquium committee and Director of PhD in AECM
2000 – 2007	Directing the SID (Summer Internship for Diversity) program
2006	Chair Computational Design concentration
2005	Chair, Graduate Fellowship Committee and Computational Design concentration
2004	Member of the Head selection committee, Director of AECM Masters degree
2003 – 2007	Member of the Diversity Council of Carnegie Mellon University

Mary-Lou Arscott, RIBA
Adjunct Associate Professor

Teaching Area
Design

Courses
48.100 Methods & Transformations in Form • 12 units • Fall • Required

Educational Background
1976-1978 Apprenticeship with Martin Kibblewhite, City and Guilds in Carpentry, Joinery and Wood machining.
1974-1976 AA Diploma, Architectural Association, London, UK.
1973-1974 Practical Training Year, Nakuru District Council, Kenya, E. Africa
1970-1973 Bachelor of Architecture, Faculty of Architecture, Nottingham University, UK.

Honors and Awards
2007 Holly Barn, Norfolk, UK (with Knox Bhavan Architects)
- Grand Designs Best New-Build House 2007
- Civic Trust Award Commendation 2007
2006 Holly Barn, Norfolk, UK (with Knox Bhavan Architects)
- RIBA Manser Medal Winner 2006
- RIBA National Award 2006 Winner,
- The Wood Awards 2006
- CPRE Norfolk Award 2006Shortlisted for the RIBA Inclusive Design Award 2006
2003 Tudor House, St Peter Port Guernsey (with Knox Bhavan Architects)
- 1st prize Aluminium Imagination Award
2001 Snape Maltings Concert Hall (with Penoyre and Prasad Architects)
- RIBA Award
1995 Media Building, Cheltenham & Gloucester College of Higher Education (with Edward Cullinan Architects)
- Financial Times Architecture Award 1995 Finalist
- RIBA Regional Award.
1994 Media Building, Cheltenham & Gloucester College of Higher Education (with Edward Cullinan Architects)
- Cheltenham Civic Award: Commendation
1993 Theatre and Arts Centre, Carshalton, Surrey (with Edward Cullinan Architects)
- Civic Trust Award: Commendation
1992 Theatre and Arts Centre, Carshalton, Surrey (with Edward Cullinan Architects)
- RIBA Downland Award Commendation
- RIBA Award: Commendation
1991 Chilworth Park Research Centre, Southampton UK (with Edward Cullinan Architects)
- Financial Times Architecture at Work Award: Finalist (with Edward Cullinan Architects)
1973 Nottingham University, Architecture School.
- 1st prize Primary School design competition.

Academic Positions
1993 Department of Architecture, Edinburgh University - visiting lecturer.
1992-3 Department of Architecture, de Montfort University, Milton Keynes - 2nd year visiting critic,
1983-4 Women's Education in Building (WEB), Ladbroke Grove, London - Director.
1983 Lambeth Women's Workshop, London - founding committee, facilitator.
1982-3 California Institute of the Arts, Los Angeles - workshop technician for BFA and MFA programs.
1979 Ashmolean Museum, Oxford - team leader training youth group to accession ceramic collection.

Professional Practice (selected projects)
1996-2006 Knox Bhavan Architects, London
Holly Barn, Norfolk, UK – new house overlooking the Norfolk Broads.
South Wraxall Manor, Wiltshire, UK – Grade 1, C14th manor house repairs, restoration.
Tudor House, St Peter Port, Guernsey – new mixed use development.
La Gonette, Haute Provence, France – restoration of ruined C17th house and landscape.
Domaine de Seguemage, Var, France – Batiment de France approvals for mans restoration within environs of world heritage site, l'Abbaye du Thoronet.

1995-6	Penoyre and Prasad Architects, London - consultant Snape Maltings, Suffolk, UK – extension to Grade 1 Listed Concert Hall, furniture, refurbished restaurant + back stage.
1986-1994	Edward Cullinan Architects, London Hooke Park, Dorset, UK – green timber structures for student accommodation. Cheltenham and Gloucester College of Art – new Media Building. London Borough of Sutton– Carshalton Theatre refurbishment and new workshop. Chilworth Park, Southampton, UK – new science park development. Uplands, High Wycombe, UK - extension to conference centre.
1984-6	Casson Conder and Partners, London Nos 43 + 44 Parliament Street – specialist conservation work to buildings dated 1720-42
1982-2002	Artist's projects. In California she assisted John Carson, Holly Morse and Sue Peehl with gallery installations. In London she has advised artists (such as Julian Opie, Dorothy Cross and Pierre Vivant) on public art proposals.
1982-3	Cabinet maker in Los Angeles, California Santa Monica darkroom and studio furniture for David Hockney. Furniture installations for Moskovitz private house in Encino.
1981-2006	Shepherdess Walk Housing Co-operative Designed, built and continually refined co-operative house with 8 others in London
1980-1	Einar Ellinsen, Joinery and cabinet making, London Joinery and furniture for Chelsea refurbishment designed by Edward Jones.
1979-80	Dove Brothers, Joinery and cabinet making, London Hardwood joinery in traditional London firm.
1973-4	Nakuru District Council, Kenya. E. Africa New primary school, children's home and public housing.

Martin Aurand
Senior Architecture Librarian and Archivist

Educational Background

1994	University of Pittsburgh, Pittsburgh, Pennsylvania. Master of Library Science
1981	George Washington University, Washington, D.C. Master of Arts in American Studies, with a concentration in Historic Preservation
1977	Haverford College, Haverford, Pennsylvania. Bachelor of Arts

Awards

2007	Art Libraries Society of North America. Worldwide Books Award for Publications.
1998	Preservation Pittsburgh. James Van Trump Award for Significant Preservation Contribution
1994	Pittsburgh History & Landmarks Foundation. Award of Merit

Selected Employment

2006-current	Carnegie Mellon University. Interim Head, Arts and Special Collections, University Libraries
1991-current	Carnegie Mellon University. Architecture Librarian and Archivist, Arts and Special Collections, University Libraries
1983-1986	Pittsburgh History & Landmarks Foundation, Pittsburgh, Pennsylvania. Director of Education / Director of Research

Selected Publications

2006	Aurand, Martin. *The Spectator and the Topographical City*. Pittsburgh: University of Pittsburgh Press, 2006.
2003	Aurand, Martin. "Condition 8: Information Resources, Architectural Program Report, School of Architecture, Carnegie Mellon University." In *The Library and the Accreditation Process in Design Disciplines: Best Practices* (ARLIS/NA Occasional Paper #14), eds. Paul Glassman et al., 101-113. Kanata, Canada: Art Libraries Society of North America, 2003.
1998	Aurand, Martin. *Pittsburgh Architecture: A Guide to Research*. 1998- . http://www.library.cmu.edu/Research/ArchArch/PGHARCHres/
1996	Aurand, Martin. *A Campus Renewed: A Decade of Building at Carnegie Mellon, 1986-1996*. Pittsburgh: Carnegie Mellon University Libraries, 1996. Exhibit catalog.
1994	Aurand, Martin. *The Progressive Architecture of Frederick G. Scheibler, Jr.* Pittsburgh: University of Pittsburgh Press, 1994.

Selected Presentations
American Institute of Architects, Pittsburgh Chapter
Association of Architecture School Librarians (AASL) Annual Meetings
Art Libraries Society of North America Annual (ARLIS/NA) Annual Conferences
Society of Architectural Historians Annual Meetings
WQED Multimedia

Selected Service
President, Vice-President, Member of Executive Board, and Conference Organizer for the Association of Architecture School Librarians
Member (and sometimes chair) of various committees for the University Libraries, School of Architecture committees, Carnegie Mellon University (including Master Plan Steering Committee), and Association of Architecture School Librarians
Instructor of for-credit and adult education courses at Carnegie Mellon University, the University of Pittsburgh, and the Community College of Allegheny County
Peer and prepublication reviewer for various authors and publishers

Professional Memberships
Association of Architecture School Librarians (AASL)
Art Libraries Society of North America Annual (ARLIS/NA)

Azizan Abdul-Aziz, LEED AP
Senior Researcher CBPD

Teaching Area
Technology

Courses

48.228	Design of Integrated Systems • 9 Units • F00 • Elective
48.763	Collaborative Work Environments • 9 Units • S02 • Elective
48.589	Integrated Product Design • 9 Units • F04, S07 • Elective
48.736	Independent Studies • 9/24 Units • F03, S04, F04, F05, S07, F07 • Elective
48.596	Green Building Design and LEED™ • 9 Units • S03, S04, S05, S06 • Elective

Educational Background

1991	Master of Science in Building Performance and Diagnostics
1990	Bachelor of Architecture with University Honors

Honors and Awards

2001	I.D.E.A.S. Award: American Institute of Steel Construction
1999	AIA Award: American Institute of Architects
1997	Three Rivers Environmental Award: Pennsylvania Environmental Council and the Duquesne Light Company

Academic Positions / Teaching Experience / Administrative Experience
Senior Research Architect, Center for Building Performance & Diagnostics, CMU
Instructor, School of Architecture, CMU

Professional Practice / Consulting

Current	Building As Power Plant/Invention Works: Pittsburgh, PA
Current	Steel City Rowing Club Boathouse: Verona, PA
2001	Laboratory for the Design of Cognition: Paris, France
1999	Adaptable Workplace Laboratory: Washington, DC
1997	Intelligent Workplace: Pittsburgh, PA

Research (recent / selected)

2003 – current	Workplace 20•20, US General Services Administration ($375,400)
1999 – 2003	Adaptable Workplace Laboratory and Productivity Protocol Development, US General Services Administration ($844, 299)
1997 – current	Building As Power Plant, ABSIC – Advanced Building Systems Integration Consortium ($500,000)

Scholarship / Publications (recent / selected)

2007	"U.S. Environmental Initiatives and R&D and the Malaysian Application" Conference on Sustainable Buildings South-East Asia. Kuala Lumpur, Malaysia. November 2007
2007	"Indoor Environmental Quality Toolkit: EnviroBot" Conference on Sustainable Buildings South-East Asia. Kuala Lumpur, Malaysia. November 2007
2003	"Creating a National Environmental Assessment Toolkit (NEAT!) Productivity Protocols for the Field Evaluation of Baseline Environmental Quality" USGBC International Green Building Conference. Pittsburgh, PA. November 2003
2002	"Collaborative Work Settings" U.S. General Services Administration. NSF Grant # 9979224, April 2002
2001	"Post Occupancy Evaluation of the Adaptable Workplace Laboratory" U.S. General Services Administration. NSF Grant # 9979224, February 2001
2001	"Towards a Global Concept of Collaborative Space" 6th European Concurrent Engineering Conference. Valencia, Spain. April 2001
2001	"Smart Buildings: Intelligent Buildings" Facility Design and Management Handbook. pp. 12.1 – 12.41. McGraw-Hill, 2001

Public Speaking

2007	"Green Building Mission" Putrajaya, Malaysia
2006	"Architecture, Sustainability and Education" AIAS Quadrant Conference, Carnegie Mellon University, Pittsburgh
2005	"The Innovative University", Carnegie Mellon University, Pittsburgh

2005 “Building As Power Plant” Project Management Institute, Pittsburgh
2004 “Building As Power Plant” CMU Pittsburgh Women’s Clan, Pittsburgh
2003 “Sustainability and Green Design Concepts” UiTM, Shah Alam, Malaysia

Professional Memberships / Registration
LEED™ Accredited Professional

Walter Boykowycz, AIA
Adjunct Professor

Teaching Area
Previous: Architectural design studio at 2nd, 3rd, 4th, & 5th year levels; elective seminars (building types analysis. Architectural detail in aesthetic and technical terms)
Current: Third year design studio, Fall: ecology-based landscape design, Spring: advanced structure and construction; Design-Build elective (co-instructor with Scott Smith)

Courses (since 1999)

48.300	Architecture & Site (Third Year Studio), required 18 unit course, Fall Semester, prerequisite all 2nd yr studio and core courses
48.305	Architecture & Structure (Third Year Studio), required 18 unit course, Spring Semester, prerequisite Fall 3rd yr studio and core courses
48.568	Design-Build Shop Elective, Elective 9 unit course, prerequisite completed 2nd year studios, Materials and Assemblies courses

Educational Background

1957-60	Undergraduate studies at University of Illinois, Chicago Painting, Sculpture studios at Chicago Art Institute;
1963	B.Arch., Carnegie Institute of Technology;
1971	M.Arch., Carnegie Mellon University;
1971	Master of Urban & Regional Planning, University of Pittsburgh.

Honors and Awards

1963	First Prize- Design Competition for Commons & Garden, US Army Special Forces Military Campus, Fort Bragg, Fayetville, NC.
1970	Citation for Design Excellence - Record Houses, for East Hills Village (in office of Tasso Katselas).
1973	Citation for Design Excellence - Pittsburgh URA Manchester Street Park Competition.
1981	Second Prize - Pittsburgh Center for the Arts Design Competition.
1997	Appointed Honorary Professor of Architecture, National Academy of Art, Kyiv, Ukraine
1999	First Prize, Universal House Competition, Pittsburgh (in collaboration with Michael Warthnaby, in office of Perkins Eastman Architects)

Academic Positions / Teaching Experience
History: Teaching 19691972, 1980-present, Assistant Professor at CMU Department of Architecture, studio instructor at various levels, lecturer in Advanced Building Technology, Architectural Detail, & Building Types, principal advisor for graduate theses; undergraduate design-build studio.
Summer: Rome Studio instructor with Prof. Antonino Saggio, and Summer Studio at CMU
Present: Adjunct Professor, currently assigned to teach Third Year Studios: Sixth Year Diploma Thesis adviser at the National Academy of Art & Architecture, Kyiv, Ukraine
Fall Studio focus: Landscape & Ecology, Spring Studio focus: Structure & Construction, Design-Build Elective

Professional Practice (selected projects)
McKeesport City Hall (Construction document stage Fall 2007)
McKeesport Ambulance Rescue Service Center (schematic stage)
Zion Baptist Church, McKeesport (not executed)
Punxsutawney Historical Society Museum (In office of Perfido Weiskopf Architects)
Valley View Homes, Mercer County Housing Authority (In office of Perfido Weiskopf Architects)
Beaver County Transportation Terminal Building (with Maines Associates)
Pittsburgh Filmmakers, School of Photography & Film
Preliminary Design for Stadium and Field House, Washington & Jefferson University (with MCF Architects)
First Church of Christ Scientist, Pittsburgh
Ukrainian Room, Cathedral of Learning, University of Pittsburgh
Wellsboro Historical Museum, Wellsboro, Pa.

Scholarship
1996-97 Fulbright Scholar - Lecturing and design instruction for academic year, National Academy of Art & Architecture, Kyiv, Ukraine.

Community Service
Founding Member: Peoples Oakland Inc. Neighborhood service and planning organization
Principal: Pittsburgh School of Ukrainian Studies

Professional Memberships / Registration
American Institute of Architects and Pennsylvania Society of Architects,
Construction Specifications Institute

Christine Brill, RA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.300	Architecture Design Studio: Architecture & Landscape • 18 units • F07 • Required

Education

2007	Master of Landscape Architecture: Option in Community and Urban Design Option. The Pennsylvania State University
2007	Brazil Consortium Design Charette: Eldorado, Brazil. The Pennsylvania State University
1999	Bachelor of Architecture, with honors. Carnegie Mellon University.
1998	Semester Abroad. ITESM, Querétaro, Qro., México

Recent Awards

2007	Creative Achievement Award, College of Arts and Architecture. The Pennsylvania State University, University Park, PA.
2005	Institute for Arts & Humanities Summer Research Residency. The Pennsylvania State University, University Park, PA
2005	Graduate Fellowship. The Pennsylvania State University, University Park, PA. For Graduate Study in Landscape Architecture
2004	Group Study Exchange, Rotary International Exchange Program for Young Professionals. Month-long professional exchange program in London, England

Academic Appointments/Teaching Experience

2007 – current	Carnegie Mellon University – School of Architecture, Assistant Adjunct Professor
2006 – 2007	The Pennsylvania State University – Department of Landscape Architecture, Instructor
2005	Art & Architecture Camp, Carnegie Museum of Art w/ Carnegie Mellon School of Architecture. Instructor various ages: kindergarten through middle school
1999 – 2002	Architecture for Kids, Carnegie Mellon University, School of Architecture. Instructor various ages: 5th through 12th grades

Professional Experience

2007 – current	Independent Design Consultant, Pittsburgh, PA Architecture, Urban Design, Community Workshops
2000 – 2005	Pfaffmann + Associates PC, Pittsburgh, PA, Project Manager
Selected projects:	
	University of Pittsburgh Preservation Plan (2004) – Pittsburgh, PA
	Carnegie Library of Pittsburgh Homewood Branch renovation (2003) – Pittsburgh, PA
	Chatham College Preservation Plan (2003) – Pittsburgh, PA
	Lawrenceville Riverfront Boat Launch and Observation Deck (2002) – Pittsburgh, PA
	Northside Development Planning Initiative (2001) – Pittsburgh, PA
1998 – 2000	Perkins Eastman Architects, Pittsburgh, Intern Architect Affordable and Senior Housing, Urban Design, Marketing
1995 – 1997	Skidmore, Owings & Merrill, New York City, NY, Summer Architectural Intern

Scholarship/Publications

2007	The GroundZero Action Network: Developing Agency through Space Production – Graduate thesis research project. The Pennsylvania State University, University Park, PA
2003	GroundZero Action Network – paper delivered at The Monongahela Conference on Post Industrial Community Development – Art, Ecology and Planning with People Influencing Public Spaces We Care About, October 23-25, 2003. Carnegie Mellon University

Exhibitions

2006	Project for a Conversation. Part of Equipoise: Couples Exhibition. An exhibit organized by the Artists Upstairs Gallery, in Pittsburgh, PA. Curated by Erin O'Neil.
2005	Looking for Braddock's Fields. Part of Groundworks: Environmental Collaboration in Contemporary Art. An exhibit organized by the Regina Gouger Miller Gallery, at Carnegie Mellon University, Pittsburgh, PA. Curated by Grant Kester
1999	Art of Architects, AIA Gallery, Pittsburgh, PA

Commissions

2004	Looking For Braddock's Fields – Community Research & Dialogue Projects, Braddock, PA One month Artist Residency in Braddock Pennsylvania with Jonathan Kline, Sponsored by 3 Rivers 2nd Nature, a project of the STUDIO for Creative Inquiry at Carnegie Mellon University, Pittsburgh, PA
2003	An Ecological History of Pittsburgh, Outdoor Sculpture – Carnegie Museum of Natural History, Dinomite Days. In collaboration with Jonathan Kline and Kelly Doctor. National City Bank Plaza, Pittsburgh, PA

Public Speaking

2006	Looking for Braddock's Fields, presented with Jonathan Kline at the Association for Community Design Conference, Los Angeles, CA.
2005	Looking for Braddock's Fields, presented with Jonathan Kline at Groundworks: Environmental Collaboration in Contemporary Art. Organized by 3 Rivers 2nd Nature, a project of the STUDIO for Creative Inquiry at Carnegie Mellon University, Pittsburgh, PA
2003	The GroundZero Action Network, presented with Jonathan Kline and Brian Maloney at the Monongahela Conference on Post Industrial Community Development. Organized by 3 Rivers 2nd Nature, a project of the STUDIO for Creative Inquiry at Carnegie Mellon University, Pittsburgh, PA

Community Service

2003 – current	Lawrenceville Stakeholders, Co-Founding Member
2000 – 2005	GroundZero Action Network – Co-founder and Core Group member of a project-based, creative community arts and advocacy network in Pittsburgh, PA. Selected projects follow: The Knotweed Project (2004). Collaborative project to raise awareness and provoke dialogue about the invasive plant species, and the concept of "being native." With artists Reiko Goto and Noel Hefele, of 3 Rivers 2nd Nature. Urban Hike (2002-2004). Ongoing series of open-to-the-public hikes through urban neighborhoods and municipalities in the Pittsburgh region, with an emphasis on community, history and culture. Activate Pittsburgh (2001-2004). Engaging Pittsburgh citizens in proactive, creative, collaborative endeavors. Art Votes (2001-2003). Increasing the visibility of the arts community as a voting constituency, and raising the art community's awareness of the impact of politics on art and culture.
2000 – 2002	Lawrenceville Corporation, Vision 15201 Committee Member

Membership/Registrations

2006 – Present	Registered Architect in the Commonwealth of Pennsylvania
2005 – Present	Association for Community Design, Member

Teresa Bucco, RA
Adjunct Assistant Professor

Teaching Area
Design

Courses
48.100
48.105

Education Background

1995	Master of Architecture, Minor in Urban Design, North Carolina State University, Raleigh, N.C.
1990	Bachelor of Arts in Architecture, Lehigh University, Bethlehem, PA
1989	Foreign Studies & Travel, Scuola Lorenzo de Medici, Florence, Italy

Honors and Awards

2007	Bistro 19, Pittsburgh Magazine Best Restaurants Design Award
2002	Pixar Animation Studios with BCJ, AIA Honor Award, AIA Pittsburgh
1999	School of Oceanography Building/University of Washington with BCJ, AIA Honor Award, AIA Pittsburgh

Academic Positions

2002 – current	Adjunct Assistant Professor, Carnegie Mellon University, First Year Architecture Design Studio, academic year 2002-2003, spring 2005
1994 – 1995	North Carolina State University, Raleigh, NC, School of Design, Professor J. Patrick Rand, Associate Dean, Graduate Teaching Assistant, Architectural Construction Systems and Structures & Materials

Professional Practice

2005 – current	Teresa Bucco, Architect
	Bistro 19, Mt. Lebanon, PA
	East End Residence, Pittsburgh, PA
2002 – 2004	Celento Henn, Pittsburgh, PA
	Western Pennsylvania Montessori School, Allison Park, PA
	Pressley Ridge Administration, Pittsburgh, PA
	Red House Office, Pittsburgh, PA
	DeMarco Brandegee Residence, Pittsburgh, PA
	Vallozzi's Restaurant, Greensburg, PA
1995 -2001	Bohlin Cywinski Jackson. Pittsburgh, PA / Berkeley, CA
	Cellomics Headquarters, Pittsburgh Technology Center, Pittsburgh, PA
	Aristech Polypropylene Research Facility, Pittsburgh, PA
	Pixar Animation Studios, Emeryville, CA
	Carnegie Learning, Pittsburgh, PA
	Residence Hall, Carnegie Mellon University, Pittsburgh, PA
	School of Oceanography, University of Washington, Seattle, WA

Service
Volunteer, Pittsburgh Community Design Center's Renovation Information Network

Registration
Registered Architect, State of Pennsylvania 1999

David Burns
Adjunct Assistant Professor

Teaching Area
Design, Digital Media

Courses

48.100	Architecture Design Studio: Methods and Transformations in Form • 12 units • F03 - 06 • Required
48.105	Architecture Design Studio: Methods and Transformations in Space • 12 units • S04, S06 • Required
48.120	Introduction to Digital Media 1 • 6 units • F03 - 07 • Required
48.125	Introduction to Digital Media 2 • 6 units • S04 - S07 • Required
48.350	Architecture Design Studio: Advanced Construction • 18 units • S05 • Required
48.400	Architecture Design Studio: Occupancy • 18 units • F07 • Required
48.477	Patterning – Third Generation Digital Design □ 9 units □ S07 □ Elective
48.570	Parametric Design □ 9 units □ F05 □ Elective
48.590	MAYAmini • 6 units • S04 • Elective

Educational Background

2000	Master of Science in Advanced Architectural Design, Columbia University
1996	Bachelor of Architecture, University of Tennessee

Academic Positions

2003-current	Adjunct Assistant Professor of Architecture, Carnegie Mellon University
2006-2007	Visiting Professor, Carnegie Mellon University Entertainment Technology Center
2001-2003	Paul Rudolph Visiting Assistant Professor of Architecture, Auburn University

Administrative Experience

2007	Thesis Advisor
2007	“Wrinkles” Exhibition
2004-2005	Computational Design Committee, Carnegie Mellon University
2003-2004	Lecture Series Committee, Carnegie Mellon University
2003	“Portfolio Competition” Exhibition coordinator
2002-2003	Lecture Series Co-coordinator, Auburn University
2002	“Digital Boundaries” Symposium Co-coordinator, Auburn University
2002	“Projections” Exhibition coordinator
2002	“Sept 11 / 7 Projects” Exhibition co-coordinator
2001-2003	Educational Technology Committee, Auburn University
2001-2003	Thesis Advisor, Auburn University

Invited Critic, Lectures, Panel Discussions, Workshops

2007	Invited Critic – Ohio State University
2007	Workshop – Pittsburgh Builds AIA Conference, “Digital Design in Contemporary Practice”
2006	Invited Critic – University of Illinois, Chicago
2006	Invited Critic – Auburn University
2006	Panel Discussion – 2006 AIAS Quad Conference, “Architecture, Sustainability, and Education”
2006	Lecture – CMU School of Design, “SO-AD”
2005	Invited Critic – University of California, Berkeley
2003	Conference – Oklahoma State University, 19th National Conference on the Beginning Design Student
2003	Lecture – University of Pittsburgh Architecture Club, “Recent SO-AD Projects”
2003	Invited Critic – Auburn University Rural Studio
2003	Invited Critic – Robert Morris University
2002	Invited Critic – Auburn University Rural Studio
2002	Invited Critic – Columbia University
2001	Invited Critic – Auburn University Rural Studio
2001	Invited Critic – Columbia University

Professional Practice

2007	FLUX 15 – Interior architecture, curating
2007	Tower Inert – Architectural competition
2007	El Museo Cultural de Sante Fe – Architectural competition

2007 Locomotive Extension – Conceptual design, Carnegie Science Center / ETC
2006 Banding – Invited architectural competition, The Charm Bracelet Project
2006 Moiré House – Conceptual design
2005 Stanton-Mertz Residence – Architecture
2005 The New Hazlett Theatre – Invited architectural competition
2004 *Time Capsule 21* Online Exhibition, The Andy Warhol Museum, Pittsburgh, PA

Exhibitions and Installation Art

2007 "Frame(s)" – "Artwalk" Group Exhibition, The Andy Warhol Museum, Pittsburgh, PA
2007 "Footsteps" – "Arise" Group Exhibition, Braddock, PA
2007 "Constraints" – "First Night Pittsburgh" Group Exhibition
2006 "Out of Sync" – "Partisan Project" Group Exhibition, 5151 Gallery, Pittsburgh, PA
2006 "Time Capsule 21" – AIGA PGH 100 Group Exhibition
2006 "Alabama Moiré" – "Unselfconscious Alabama" Group Exhibition, Auburn, AL
2005 "Inside Out" – "By Design" Group Exhibition, Three Rivers Arts Festival Gallery, Pittsburgh, PA
2005 "P.O.V." – "Gestures" Group Exhibition, The Mattress Factory Museum, Pittsburgh, PA
2004 "ENDonEND" – Future Tenant Gallery, Pittsburgh, PA

Lee Calisiti, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses (since 1999)

48.100	Methods & Transformations in Form • 12 units • Fall • Required
48.105	Methods & Transformations in Space • 12 units • Spring • Required
48.200	Architecture, Design and Composition • 12 units • Fall • Required
48.205	Architecture, Design and Materials • 12 units • Spring • Required

Educational Background

1991	Bachelor of Architecture, Kent State University, Magna cum Laude

Honors and Awards

2002	Preservation Award from the City Of Pittsburgh Historic Review Commission for Fitzsimmons Square Townhouses (with Integrated Architectural Services)
2002	Preservation Award from the City Of Pittsburgh Historic Review Commission for 903 Liberty Avenue Façade Renovation (with Integrated Architectural Services)
2001	Citation Award from AIA Pittsburgh for 813 Liberty Avenue Façade Renovation (with Integrated Architectural Services)
2000	Citation Award from AIA Pennsylvania for 813 Liberty Avenue Façade Renovation (with Integrated Architectural Services)
2000	Preservation Award from the City Of Pittsburgh Historic Review Commission for 813 Liberty Avenue Façade Renovation (with Integrated Architectural Services)
1998	Citation Award from AIA Pittsburgh for The Denny Row Townhouses (with Integrated Architectural Services)
1998	Preservation Award from the City Of Pittsburgh Historic Review Commission for The Denny Row Townhouses (with Integrated Architectural Services)
1991	AIA Medal of Honor – from Kent State University School of Architecture, for Excellence in Architecture, top of class.

Academic Positions / Teaching Experience / Administrative Experience

2002 – present	Adjunct Assistant Professor, Carnegie Mellon University, School of Architecture
1990 – 1991	Graduate Teaching Assistant, Kent State University, School of Architecture.

Professional Practice (work / projects) / Consulting

2003 – present	Principal, lee CALISTI architecture+design
1995 - 2003	Senior Associate / Project Architect, Integrated Architectural Services Corporation
1991 - 1995	Intern Architect, Barry Wm. Morris, R.A.

Exhibits and Publications

2006	'house to Home' Magazine, "The Right Blend", April 2007, Private Residence, Greensburg, PA
2000	Young Architecture '2K, Pittsburgh Intern and Young Architects Forum, AIA Pittsburgh Gallery (Curator and Participant in show, received one of five best of show awards)
1998	Young Architecture '98, Pittsburgh Intern and Young Architects Forum, AIA Pittsburgh Gallery, (Curator and Participant in show)
1998	Art-chitecture - Art by Architects, AIA Pittsburgh Gallery
1996	Recent Kent Graduates, Kent State University School of Architecture
1994	Design Awards AIA Pittsburgh, AIA Pittsburgh Gallery, 1994.

Professional Memberships / Registration / Service

Since 1995	Architect: Pennsylvania
Since 1996	NCARB Certified
Since 1991	AIA Member (American Institute of Architects)
Since 2006	City of Greensburg, Historic Architectural Review Board

Gary Carlough, AIA
Adjunct Professor

Teaching Area
Design

Courses

48.400	Architecture Design Studio: Occupancy • 18 units • Fall • Required
48.405	Architecture Design Studio: Systems Integration • 18 units • Spring • Required

Educational Background

1990 to 1992	Independent Study; Theory and Design; Architectural Association, London, UK
1975	Bachelor of Architecture; University of Arizona, Tucson, Arizona

Honors and Awards

2005	InfoCom –Archi-Tech Magazine Award; Grand Prize, Carnegie Library of Pittsburgh-Main
2005	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, Carnegie Library of Pittsburgh-Main
2004	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, 5400 Cambells Run
2004	Design Award, Pittsburgh Chapter, AIA; Award of Excellence, Gateway Station
2003	Design Award, Pittsburgh Chapter, AIA; Honor Award, 947 Liberty Avenue
2003	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, EDGE studio
2003	Design Award, Pittsburgh Chapter, AIA; Award of Excellence, Waterfront Corporate Park
2003	Design Award, Master Builders Association, Design excellence, EDGE studio
2002	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, Society for Contemporary Craft
2002	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, Shady Lane School
2001	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, AT+T Regional Comm. Center
2001	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, AT+T Tech-Op Center
2000	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, Jack Horner Communications

Academic Positions / Teaching Experience

Current	University of Michigan, Ann Arbor, Michigan; Guest Critic, Ongoing
1988–2007	Carnegie Mellon University, School of Architecture; Adjunct Full Professor
1992	The Catholic University of America, Department of Architecture; Visiting Professor

Professional Practice

1995 – current	EDGE studio, Principal and President, 1995 to present Carnegie Institute, Carnegie Museums of Pittsburgh, Addition University of Pittsburgh: Mascaro sustainability Initiative University of Pittsburgh: Benedum Hall School of Engineering, Additions and Renovations Carnegie Mellon: Computer Science Complex (Affiliate Architect to Mack Sogin Merrill Elam) AT&T Broadband; Regional Communications Center and Technical Operations Centers Carnegie Library of Pittsburgh, East Liberty Branch Carnegie Library of Pittsburgh, Main Branch Jack Horner Communications; Corporate Offices Pittsburgh History & Landmarks Foundation; Fifth and Forbes Planning, “Plan ‘B’” Port Authority of Allegheny County; Gateway Station, North Shore Connector RIDC; Lawrenceville Technology Center, master plan Sampson Morris Group; 5400 Campbells Run, Tenant, Verizon Communications, Inc. Shady Lane School; Early Education School Society for Contemporary Craft; Gallery and Educational Center United States Department of the Energy; Advanced Neutron Source
1991-1995	Carlough and Associates, Sole Proprietor
1985-1990	The Design Alliance, Principal
1980-1985	Deeter Ritchey Sipple, Associate
1975-1980	Valentour English and Associates, Associate

Creative Productions, Exhibitions

2004	“Time Capsules’” The Andy Warhol Museum, Pittsburgh, PA
2003	“Pittsburgh Platforms,” Heinz Architectural Center, Pittsburgh, PA
1999	“In The Doghouse,” Heinz Architectural Center, Pittsburgh, PA
1999	“Wats:On? Café,” Hewlett Gallery, Carnegie Mellon University, Pittsburgh, PA
1994	“Pittsburgh Architects,” Heinz Architectural Center, Pittsburgh, PA

Public Speaking

2006	Carnegie Mellon, School of Architecture - Guest Lecture, “Mind the Gap”
2004	Art Institute of Pittsburgh, Keynote speaker, Graduation
1999	Andy Warhol Museum, Symposium: “When you wish upon a star: Themed Worlds”

Service

2006-Current	The Pittsburgh Cultural Trust; District Design Committee
1998-2004	Friendship Development Associates, Board Member
2000-2004	Penn Avenue Arts Initiative, Steering, Fiscal and Marketing Committees

Professional Memberships / Registration

American Institute of Architects
Licensed Architect, State of Pennsylvania
Architectural Association, London, United Kingdom

Joseph Coohill, PhD
Adjunct Assistant Professor

Teaching Area
Architectural History

Courses
48.433 The Destruction and Reconstruction of Iconic Buildings and Cities

Educational Background
1998 Doctor of Philosophy in Modern History, Faculty of Modern History, University of Oxford
1991 Master of Arts in History, University of Melbourne
1989 Bachelor of Arts in History, Humboldt State University

Honors and Creative Work
2001 Elected a Member of the Royal Historical Society

Academic Positions
2001 - 2002 Visiting Assistant Professor, History Department, Gettysburg College
2002 - 2007 Assistant Professor, Pennsylvania State University, New Kensington
2007 - present Adjunct Professor, School of Architecture, Carnegie Mellon University
2007 - present Assistant Professor, History Department, **Error! Contact not defined.**

Research
2000 - present Scholarly monograph on the destruction and rebuilding of the British Houses of Parliament, tentatively entitled “Politics and Architecture.” (funded to a total of $5650 since 2000)
2000 - present Editing the diary of Sir George Hayter. (funded to a total of $2300 since 2000)

Scholarship
2005 “The British Parliament in Modern World History,” Oxford History of the Modern World
2006 “Sir George Hayter and the 1833 House of Commons,” British Art Journal

Professional Membership
Royal Historical Society, American Historical Association, Historians of British Art, North American Conference on British Studies

Douglas Cooper
Andrew W. Mellon Professor

Teaching Area
Drawing

Courses

48.230	Perspective • 9 units • F99-present • Required
48.135	Understanding Appearance • 9 units • S00-present • Required
48.130	A Tactile Foundation • 6 units • F99-present • Required

Education

1970	Department of Architecture, Carnegie-Mellon University : B. Arch

Teaching/ Administrative Experience

1976 – current	Department of Architecture, Carnegie Mellon University, Pittsburgh, PA Professor, Architecture (1986 – present) Associate Head, Architecture (1988-1991) (1992-1993). Associate Dean, College of Fine Arts (1994-1996)

Professional Practice: Selected Civic Murals and Commissions

2005	--Universita` di Roma La Sapienza, Rome, ITALY. With G. Picher, P. Clark et al (completion Aug 2005) Mural circa. 160 feet-long for the "aula magna" at the University's Esquilino facility, Ex Caserma Sani, Mural depicts the topography and personal stories of the Esquilino district of Rome. Work in Rome developed jointly with Gianna Vairo Dept. of Modern Languages and four CMU undergraduates. Project supported by Roy A. Hunt, Olivetti, and Bitner Foundations and CMU.
2005	--King County Courthouse, Seattle Washington—with Gregoire Picher, Patty Clark (completion: Jan 2005) Set of murals depicting regional history for lobby spaces of King County Courthouse Seattle WA.
2003	--Michael Baker Corporation, Pittsburgh PA (2003) with Gregoire Picher Mural 20' x 24' for corporate headquarters depicts history,and traditions of Michael Baker Corp.
2002	--University of California at San Francisco, Med Sci Bld San Francisco, CA—with G. Picher (2002) Mural depicts history of San Francisco and UCSF. Developed with UCSF staff, patients and neighboring residents. Work assisted by CMU anthropologist Judith Modell; four CMU undergraduates,. Project supported by Bitner and Emma Eastman Foundations and CMU.
2001	--Pennsylvania Turnpike Commission Headquarters, Harrisburg, PA with Sarah Cooper (2001) Pair of murals (8'x 13', 8' x 16') depicting the history of the turnpike for the commission's boardroom
1997	--John's New York, NY —with Sarah Cooper, Rebecca Schultz and John Trivelli) (1997) Set of murals on the themes of Manhatten, Times Square and the Theater District (20' x 30', 8'x 24', 2'x 24' respectively for John's, a restaurant on West 44th St. (just west of Times Square.
1996	--Kleinmarkthalle Frankfurt, Germany (1996) 6- meter high by 9-meter wide mural for central market. Developed with senior centers and assisted by Prof. Stephen Brockmann, of Mod. Lang. and four CMU students, Project supported with grants from The National Endowment for the Arts, Roy Hunt Foundation, Bosch Corporation, Deutsche Bank Bauspar AG.
1995	--University Center Mural, Pittsburgh, PA —with Jonathan Kline and John Trivelli (1995-6) 200-foot- long mural for permanent installation along three walls around The Rotunda of University Center, Carnegie Mellon University, Pittsburgh, PA.
1993	--Philadelphia Courthouse, Philadelphia, PA —with Deborah Zwetsch, and Walter Tien) (1993-5) 96-foot long composite mural of Philadelphia. Work developed jointly with the Center in the Park, Philadelphia center for the elderly.
1991	--Senator John Heinz Regional History Center, Pittsburgh, PA with Sarah Cooper (1991-3) 120-foot long mural of Pittsburgh. Work developed jointly with elderly at Vintage, a Pittsburgh activities center for the elderly. Work supported by PA Council on the Arts and National Endowment for the Arts. Work installed 1996 Heinz Historical Center. Work subject of PBS 1/2 hr. feature "A Map of Memories"

Exhibitions (selected solo shows)

1997	Institut für Stadtgeschichte, Karmeliterkloster, Frankfurt am Main, Germany
1978, 92, 93	The Carnegie Museum, Pittsburgh, PA
1975, 90	Galerie Der Spiegel, Köln, Germany
1989	AIA National Headquarters, Washington, DC.
1985	Alex Rosenberg Gallery, New York, NY.

Books

2000	*Steel Shadows*, Pittsburgh: University of Pittsburgh Press
2006	*Drawing and Perceiving* Fourth Edition New York, NY: John Wiley & Sons

Professional Honors

2000	AIA National Award for collaborative contributions to the profession of architecture
1985	Henry Hornbostel award for teaching excellence in the College of Fine Arts, CMU

Gerard Damiani, AIA
Adjunct Professor of Practice

Teaching Area
Design

Courses

48.100	Architecture Design Studio: Methods and Transformations in Form • 12 units • Fall • Required
48.105	Architecture Design Studio: Methods and Transformations in Space • 12 units • Spring • Required
48.200	Architectural Design Studio: Composition • 18 units • Fall • Required
48.205	Architectural Design Studio: Materials • 18 units • Spring • Required

Education Background

1990	Syracuse University, Syracuse, New York, Bachelor of Architecture, Magna Cum Laude
1989	Scuola di Architettura, Syracuse University, Critic: Colin Rowe, Florence, Italy
1986	SUNY Orange, Associate Applied Science Degree, Middletown, New York

Honors and Awards

2007	Pittsburgh Magazine, Superior Interiors, Winner, Hughes Residence, March
2006	AIA Pittsburgh, Interior Architecture Award, Hughes Residence
2005	AIA Pittsburgh, Certificate of Merit, The Attic at Gettysburg College
2005	AIA Pittsburgh, Green Design Citation, Urban Biophilic Pavilion
2005	AIA Pittsburgh, Certificate of Merit, Urban Biophilic Pavilion
2005	Strawberry Way Public Art Competion, Winner (with artist Jeremy Boyle), Fall
2004	AIA Pittsburgh, Certificate of Merit, The Goodyear Building, Student Housing, Dickinson College
2004	Pittsburgh Magazine, Superior Interiors, Winner, Sigesmund Residence, March
2002	AIA Pittsburgh, Honor Award, Bodymedia Offices, Phase II / III
2001	AIA Pittsburgh, Certificate of Merit, Bodymedia Offices,Phase IV
2001	AIA Pittsburgh, Open Plan Certificate of Merit, Sportworks (unbuilt)
2000	40 under 40, Pump/ Pittsburgh Magazine
2000	Pittsburgh Magazine, Superior Interiors, Winner, Cowen Residence Renovation, March
2000	Pittsburgh Magazine, Superior Interiors, Winner, Cross-Peake Residence Renovation, March
1999	**Error! Contact not defined.**, Honor Award, Sandbox Advanced Development Offices
1998	Pittsburgh Magazine, Superior Interiors, Winner, Zunder Residence Renovation, March
1997	Pittsburgh Magazine, Superior Interiors, Winner, Live / Work Studio, March

Teaching/ Administrative Experience

2007	Carnegie Mellon University, School of Architecture, Adjunct Professor of Practice, 1st year coordinator, Fall
2007	Carnegie Mellon University, School of Architecture, planned, organized,and lead a 14-student "Study Abroad" trip to India ("Le Corbusier's India: Chandigarh and Ahmedabad") with CMU Colleague Kai Gutschow, May 19-31
1996 – 2007	Carnegie Mellon University, Department of Architecture, Adjunct Associate Professor, 1st & 2nd year studio
2004	Carnegie Mellon University, Department of Architecture, 2nd year coordinator, Spring
2003	Kansas State University, College of Architecture, Visiting Professor of Architecture, Forth Year Design Studio, Fall
1998, 1999	Carnegie Mellon University, Department of Architecture, 1st year coordinator
1992-1994	Syracuse University, School of Architecture, 1st year design studio, 1st year drawing, Thesis Advisor and Committee Member

Professional Practice/ Consulting

1996 – current	Principal, studio d'ARC architects, P.C., Pittsburgh, PA
1994-1996	Project Architect, Hemmler Camayd Architects, Scranton, PA
1994	Architect, Werner Seligmann and Associates, Cortland, NY
1990-1992	Project Architect, Michael Dennis and Associates, Boston, MA
1989	Assistant, Heinz Tesar, Architect, Vienna, Austria

Scholarship/ Publications

2004 Oz, Volume 26, Sequence, Kansas State University, How Sequence Influences Building, Fall
2003 Pittsburgh Biennial Exhibition, Pittsburgh Center for the Arts, An Investigation into the Particular, Spring
2003 Architecture Record, Building Types Study, Dickinson College, Goodyear Building, October
2003 From the Ground Up Exhibition: The Art of Architecture, Greenlease Gallery, Rockhurst University, Fall
2003 Pittsburgh Platforms Exhibition, The Heinz Architecture Center, Live/Work Studio II, CMOA, Summer/ Fall
1999 Modulus 24, Industrial Intersections, University of Virginia, A Public Space for an Industrial City
1999 Per-spek-tiv, AIA Gallery, Pittsburgh, July
1998 "A New/ Old Way of Seeing." Columns (AIA Pittsburgh), May
1998 Recent Works, Young Architects Exhibit, AIA Gallery, Pittsburgh, June
1997 "Building Documentation." Columns (AIA Pittsburgh), September
1997 Alumni Works Exhibition, SUNY Orange, Orange Hall Gallery, Middletown, New York
1995 Alumni Exhibition, Syracuse University, Lubin House, New York, New York
1994 Faculty Exhibition, Recent Works, Syracuse University, School of Architecture, Syracuse, New York

Public Speaking

2007 Pittsburgh Magazine / Art Institute of Pittsburgh; Superior Interiors Winners address design students, March
2007 Carnegie Mellon University, School of Architecture Spring Lecture Series, Practical Matters, February
2004 AIA Kansas, Lecture: An Architecture of Modest Means, Fall
2004 Western Pennsylvania Conservancy, Lecture: Contemporary Approaches to Stone, Summer
2003 Kansas State University, Lecture: An Architecture of Modest Means, Fall
2003 Florida Atlantic University, Lecture: An Architecture of Modest Means, Fall

Service

2007 Carnegie Mellon University, School of Architecture, Faculty Search Committee Member, Spring
2006 Kent State University School of Architecture, Advisory Board Committee Member, 2006 - 2007
2006 Carnegie Mellon University, Campus Design Visioning Committee, 2006-2007
2005 Carnegie Mellon University, Architect Selection Committee: Gates Computer Science Building, Spring
2003 Western Pennsylvania Conservancy, Fallingwater Summer Residency Program, 2003 and 2004

Memberships/ Registration

NCARB, AIA, Registration: New York 1993; Pennsylvania 1994

Jeffrey Davis, AIA, LEED AP
Adjunct Associate Professor

Teaching Area
Design

Courses (since 1999)

48.300	Architecture, Structure and Construction • 18 units • F99 • Required
48.305	Structure, Enclosure and Construction Studio • 18 units • S01, S02, S03, S04 • Required
48.305	Advanced Construction Studio • 18 units • S05, S06, S07 • Required

Educational Background

1980	Bachelor of Science, Architectural Studies, University of Illinois at Urbana/Champaign

Honors and Awards (recent / selected)

2007	National Association of Industrial and Office Properties (NAIOP), Pittsburgh Chapter, Speculative Office Building of the Year Award for Quantum II Building
2006	Environmental Design+Construction Magazine, Commercial Excellence in Design Awards - Category Finalist for Carnegie Mellon University Collaborative Innovation Center
2005	American Institute of Architects, National Committee on the Environment, National Top Ten Design Pittsburgh Glass Center
2003	Pittsburgh Chapter, American Institute of Architects, Honor Award for Pittsburgh Glass Center
1995	Pittsburgh Chapter, American Institute of Architects, Honor Award for WYEP-91.3 FM, Studios and Offices
1994	Pittsburgh Chapter, American Institute of Architects, Honor Award for Schaefer Hall, St. Mary's College of Maryland
1994	Pennsylvania Society of Architects, Distinguished Building Award for Schaefer Hall, St. Mary's College of Maryland
1994	American School and University, Citation for Schaefer Hall, St. Mary's College of Maryland
1990	Pittsburgh Chapter, American Institute of Architects, Honor Award for NeXT, Inc., Eastern Regional Headquarters Offices

Academic Positions / Teaching Experience / Administrative Experience

1996 – current	Carnegie Mellon University, Department of Architecture; Adjunct Associate Professor

Professional Practice (work/projects) / Consulting

2005 – current	dggp Architecture; Pittsburgh, Pennsylvania; Principal
2002 – 2005	Davis Gardner Gannon Pope Architecture, Pittsburgh, Pennsylvania; Principal
1993 – 2002	Davis+Gannon Architecture, Pittsburgh, Pennsylvania; Principal

Fred Rogers Center for Early Learning and Children's Media and Conference Center, Saint Vincent College; Latrobe, Pennsylvania
Berlin Village Student Housing, Westminster College; New Wilmington, Pennsylvania
Renovation of Old Main Building, Westminster College; New Wilmington, Pennsylvania
Google Pittsburgh Offices; Pittsburgh, Pennsylvania
Collaborative Innovation Center, Carnegie Mellon University; Pittsburgh, Pennsylvania
Regional Environmental Education Center at Boyce-Mayview Park; Upper St. Clair Township, Pennsylvania
Campus Master Plan, St. Edmund's Academy; Pittsburgh, Pennsylvania
Terminal Buildings Redevelopment; Pittsburgh, Pennsylvania
Campus Master Plan, Pennsylvania Culinary Institute; South Fayette Township, Pennsylvania

Professional Practice (work/projects) / Consulting (continued)

1991 – 1993	McCormick McCarthy Architects; Pittsburgh, Pennsylvania
1990 – 1991	Jeffrey T. Davis, Architecture and Design; Pittsburgh, Pennsylvania; Principal and Sole Proprietor
1985 – 1990	Bohlin Powell Larkin Cywinski; Pittsburgh, Pennsylvania
1983 – 1985	Stenbro Associates; Chicago, Illinois
1982 – 1983	Edmond N. Zisook and Associates; Chicago, Illinois
1980 – 1982	Shafer Associates; Oak Brook, Illinois

Exhibitions

2003 Pittsburgh Glass Center; *Pittsburgh Platforms; New Projects in Architecture + Environmental Design*; The Heinz Architectural Center, Carnegie Museum of Pittsburgh

Scholarship / Publications

2003 *The Powers of Green: A Community Approach to a Sustainable Project*; Presentation to U.S. Green Building Council *Greenbuild* Conference, Pittsburgh Pennsylvania

Service

2006 – current Member, Buildings and Grounds Committee, St. Edmund's Academy

2006 Co-Chair, Architecture & Design Track Committee, *Greenbuild* Conference Program Committee, U.S. Green Building Council

2005 Member, *Greenbuild* Conference Program Committee, U.S. Green Building Council

Professional Memberships / Registration

Licensed Architect, States of Colorado, Illinois, Indiana, Missouri, and Pennsylvania
Member, American Institute of Architects, AIA Pennsylvania
LEED Accredited Professional, United States Green Building Council
Professional Affiliate, United States Green Building Council

Kenneth Doyno, AIA
Adjunct Associate Professor

Teaching Area
Design

Courses
48.500 Architecture in the Urban Context • 18 units • F03, S04, F04, F05, F06 • Required

Educational Background
1988 Bachelor of Architecture, Carnegie Mellon University

Honors and Awards
2006 AIA Pittsburgh Urban Design Award, Penn Fairmont Master Plan
2006 AIA Pittsburgh Design Award, Fairmont Apartments
2005 AIA Pittsburgh Design Award, Chatham University Arts and Design Center
2004 AIA Pittsburgh Design Award, East Liberty Development Guidelines and Vision Plan
2004 AIA Pittsburgh Design Award, University of Pittsburgh Honors College
2004 Historic Preservation Award, University of Pittsburgh Honors College
1999, 2001 Carnegie Science Center Award of Excellence, Carnegie Science Center, University of Pittsburgh Integrated Curriculum Classroom

Academic Positions / Teaching Experience / Administrative Experience
1991-1993 CARNEGIE MELLON UNIVERSITY, Introduction to Architecture Studio Professor
1989-1989 CITIPARKS, Developed and taught "City Building and Architecture" for Arts in the Parks

Professional Practice (work / projects) / Consulting
1988 – current Rothschild Doyno Architects 1988-2006, www.rdarch.com
The River's Edge of Oakmont
Sarah Heinz House Boys and Girls Club
Chatham University Mellon Center
Laurel Highlands Village
The Wooster Fellowship

Scholarship / Publications (recent / selected)
2003 Pittsburgh Business Times, "Expressway Wrong Path," 4/07/03
2002 Pittsburgh Post Gazette, "A Perverse Property Tax," 12/22/02

Public Speaking
Leadership Pittsburgh, Regional Vision Session Chair
COMMUNITY DESIGN CENTER, Public Official Design Institute "Integrating Retail into City Neighborhoods" "Creating Neighborhood Design Standards" "Supportive Housing Workshop" "Town and Gown" community workshops

Service
Allegheny Conference on Community Development, Regional Infrastructure and Land Use Committee
Southwestern PA Brownfield Center, Advisory Board
Pittsburgh Green Government Task Force, Advisory Board
First Unitarian Church of Pittsburgh, President Board of Trustees, Capital Campaign Co-Chair

Professional Memberships / Registration
Pennsylvania, Ohio, NCARB

Sarah Drake, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.100	Architectural Design Studio: Form • 18 units • F06, F07• Required
48.105	Architectural Design Studio: Space • 18 units • S07 • Required
48.200	Architectural Design Studio: Composition • 18 units • F03 • Required
48.205	Architectural Design Studio: Materials • 18 units • S03, S04, S05 • Required

Educational Background

1990	M. Arch., North Carolina State University
1980	B.F.A., Rochester Institute of Technology

Honors and Awards

2006	Pennsylvania AIA Honor Award, Barn at Fallingwater*,* firm of record *BCJ*
2006	Wood Council Design Merit Award, Barn at Fallingwater, firm of record *BCJ*
2006	10,000 Friends of Pennsylvania Bronze Award, Barn at Fallingwater, firm of record *BCJ*
2006	USGBC LEED Silver Rating, Barn at Fallingwater, firm of record *BCJ*
2005	AIA/ COTE Green Design Citation, Barn at Fallingwater, firm of record *BCJ*
2005	Pittsburgh Chapter AIA Silver Award, Barn at Fallingwater, firm of record *BCJ*
2004	Pittsburgh Chapter AIA Honor Award (Open Plan), Ticket Booth at Fallingwater, firm of record *BCJ*
2003	Pittsburgh Magazine Honorable Mention Superior Interiors, Eligator Sansom, firm of record *BCJ*
1997	Chicago Chapter AIA Honor Award, Exploris, firm of record *EHDD and Clearscapes,PA*
1990	The American Institute of Architects School Medal
1989	Phi Kappa Phi Honor Society

Academic Positions / Teaching Experience / Administrative Experience

2003-present	Carnegie Mellon University Adjunct Assistant Design Studio Professor
1988-1990	North Carolina State University Graduate Assistant Structures

Professional Practice (work / projects) / Consulting

2004	The Barn at Fallingwater, Western Pennsylvania Conservancy, *Bohlin* Cywinski Jackson
2002	Shiloh Street Urban Renewal, City of Pittsburgh, *Bohlin Cywinski Jackson*
1999	Rose Garden Visitor Center, Greater Huntington Parks and Recreations. *Bohlin Cywinski Jackson*
1998	A Children's Mystery Dig, Greater Huntington Parks and Recreation *Bohlin Cywinski Jackson*
1996	Exploris: Children's Museum about the World *Clearscapes, PA & EHDD*
1995	The Farm History Center, *Clearscapes, PA*
1994	Capital City & ABC WTVD 11 Durham Office, *Clearscapes, PA*
1992	Capital City & ABC WTVD 11 Raleigh Office, *Clearscapes, PA*

Public Speaking

2003	USGBC, Building case study, Barn at Fallingwater
2003	AIA Pennsylvania Executive Committee, Sustainability Case Study, Barn at Fallingwater

Professional Memberships / Registration
Registered Architect, State of North Carolina, Pennsylvania
American Institute of Architects

Rami el Samahy
Adjunct Assistant Professor

Teaching Area
Urban Design

Courses

48.500	Architecture Design Studio: Urban Lab • 18 units • Fall • Required
48.505	Architecture Design Studio: Studio X • 18 units • Spring • Required
48.706	Master Urban Design Studio • 18 units • Spring • Required
48.577	Contemporary Middle Eastern Cities • 9 units • Spring • Elective
48.577	Contemporary Middle Eastern Cities: Doha • 9 units • Fall • Elective

Educational Background

1996 – 2000	Master of Architecture, Harvard University, Cambridge, Massachusetts
1992 – 1994	Master of Art, Near Eastern Studies (with honors); Princeton University, Princeton, New Jersey
1988 – 1992	Bachelor of Art, International Relations (magna cum laude); Brown University, Providence, Rhode Island

Honors and Awards

2007	Official Selection, Re-imagining Boston City Hall, Boston Society of Architects
2006	Gerald Hines ULI Competition, Honorable Mention. Faculty Advisor to CMU entry
2004	Design Award, Progressive Architecture, Citation, AUB School of Business (Machado and Silvetti)
2003	First Prize, AUB School of Business Competition (Machado and Silvetti)
2003	First Prize, Silver Spring Town Square Competition (Machado and Silvetti)
2002	First Prize, Roma Tre University Housing Competition (Machado and Silvetti)

Academic Positions / Teaching Experience

2006 – current	Carnegie Mellon University, School of Architecture; Adjunct Assistant Professor
2007	Antwerp Design Seminars and Lectures, Henri Van de Velde Instirute, Antwerp, Belgium, Instructor
2002 – 2004	Boston Architectural Center; Adjunct Assistant Professor
2006	Northeastern University, Department of Architecture, Guest Critic
2004, 2006	Rhode Island School of Design, Department of Architecture, Guest Critic
2004 – 2006	Northeastern University, Department of Architecture, Guest Critic
2004	Wentworth Institute of Technology, Department of Architecture, Guest Critic
2003 – 2007	Roger Williams University, School of Architecture, Guest Critic
1994	Princeton University, Modern Middle Eastern History, Preceptor
1990 – 1992	Brown University, Middle Eastern Politics, Research and Teaching Assistant

Professional Practice

2003 – current	over,under, Founding Principal
	Re-imagining Boston City Hall, Boston, Massachusetts
	Desert House, Cairo, Egypt
	Beach House, Marina Del Sur, Guatemala
	Urban Voids Competition, Philadelphia
	Nam Jun Paik Museum Competition, South Korea
	Archimedia Showroom, Dubai, UAE
	Re-branding Wentworth Institute of Technology, Boston, Massachusetts
2000 – 2006	Machado and Silvetti Associates, Associate
	American University of Beirut Master plan, Beirut, Lebanon
	American University of Beirut School of Business, Beirut, Lebanon
	Citadel Square Plaza and Archeological Park, Beirut, Lebanon
	Motown Center Competition, Detroit, Michigan
	Roma Tre University Housing Competition, Rome, Italy
	Museo de San Fermines Competition, Pamplona, Spain
	Grand Egyptian Museum Competition, Giza, Egypt
1999 – 2000	Boston Design Collaborative, intern
	American University in Cairo New Campus master plan, Cairo, Egypt
1997 – 1998	Mona Zakaria Architects, Project Manager
	El Gouna Staff Housing Project, el Gouna, Egypt
	UNESCO Study: Adaptive Reuse of Cairo's Medieval Monuments

1995 – 1996 Gamal Bakry Associates, intern
Dewar Housing Complex, North Coast, Egypt
Office Portfolio Redesign

Creative Productions, Exhibitions

2007 "Urban Design at Carnegie Mellon," Carnegie Mellon University, Pittsburgh, Pennsylvania
2007 "Re-imagining Boston City Hall," Pinkcomma Gallery, Boston, Massachusetts
2006 "Selected Work," Roger Williams University, Bristol, Rhode Island
2005 "Selected Work," Wentworth Institute of Technology, Boston, Massachusetts
2003 "Machado and Silvetti: A Retrospective" American University of Beirut, Beirut, Lebanon

Research (selected)

2007 – current Architecture and Urban Design Guidelines for the Qatar Design Zone
2006 – current Contemporary Middle Eastern Cities
1999 – 2000 Roman Operating Systems, with Rem Koolhaas
1993 – 1994 Transfers of Allegiance: Apostasy, Missionaries and Conversion in Egypt during the Imperial Age
1991 – 1992 Choosing Sides: Alliance Dynamics and the Gulf War

Scholarship / Publications (selected)

2007 "Re-imagining City Hall." *Architecture Boston*, Sep/Oc 2007, Vol. 10 No.5: 26-39.
2006 Diez, Fernando. "Domesticando Arizona." *Summa Mas: 83*, November 2006: 96-103.
2005 Mournayar, Michael A. "Rebuilding education in the Middle East: AUB's new school of business in Beirut." *Competitions Magazine* Spring 2005: 4-17, 60-61
2005 "Machado and Silvetti: Citadel Square, Beirut, Lebanon." *Architecture*, vol.94, no.12, Dec 2005: 48
2004 Leston, Eduardo. "Obras Recientes de Machado y Silvetti." *Summa Mas: 67*, July 2004: 50-99.
2004 Smith, Frimmel. "Building as Placemaker: The Silver Spring Civic Center." *Competitions Magazine* Spring 2004: 4-6.
2001 "How to Build A City: Roman Operating Systems" Rem Kolhaas et.al, *Mutations* Barcelona: Actar Press, 2001: 11-19
1999 "Cairo's Medieval Monuments" *Fodors Guide to Egypt*, New York: Knopff Publishers, 1999.
1998 "Egypt's Biennale Exhibits," *Pose Magazine*. October 1998: 21-23

Public and Invited Speaking

2007 "Speaking of Cities…" Presented at Carnegie Mellon University International Festival, Pittsburgh, Pennsylvania
2007 "A Strategic Tool for Urban Planning and Design" Presented at the International Society of Regional and City Planners (ISOCARP) Congress, Antwerp, Belgium
2007 "What is a World Class City?" Presented at Carnegie Mellon University, Doha, Qatar
2007 "Re-Conceiving the Built Environment of the Gulf Region," Harvard University, Cambridge, Massachusetts, Panel Member
2006 "Machado and Silvetti: Recent Work," Carnegie Mellon University, Pittsburgh, Pennsylvania
2005 "Citadel Square," Rhode Island School of Design
2004 "Olayan School of Business," Medina Symposium: Reconstructing Identities, Harvard University

Jeremy Ficca, AIA
Assistant Professor

Teaching Areas
Design, Making, Media

Courses

48.400	Architecture, Occupancy • 18 units • F07 • Required
48.474	Digital Design Build – Fabrication Lab Construction • 9 units • F07 • Elective

Educational Background

2000	MArch II, Harvard University
1996	BArch, Virginia Tech

Professional Licensure

2006-Present	Licensed Architect in the State of North Carolina License No. 10464

Honors & Awards

2007	University Diversity Award Finalist North Carolina State University
2005-06	ACSA/AIAS New Faculty Teaching Award
2005	Outstanding Teacher Award College of Design, North Carolina State University
2004-05	ACSA Faculty Design and Research Award
2000	Distinction – Professor Terence Riley Harvard University, Design Studio
2000	J. Templeton Prize Nomination (best thesis or final project) Harvard University
1995	History and Theory Scholar Virginia Tech

Academic Positions

2007 – current	Carnegie Mellon University, School of Architecture, Assistant Prof., tenure-track, Director of Digital Fabrication Lab
2002 – 2007	North Carolina State University, School of Architecture, Assistant Prof., tenure-track
1997 – 2001	Boston Architectural College, Adjunct Instructor
1999	Harvard University, Career Discovery Program, Instructor
2002 – current	Guest Critic: University of Florida, Clemson University, Syracuse University, Virginia Tech, Northeastern University

Grants Awarded

2004	North Carolina State University Research Assistantship Award, “Mobile Learning Units”
2003	North Carolina State University Faculty Research and Professional Development Grant, “Performative Surfaces”

Research

2005	Slumped Glass Tile System
2004 – 2007	Mobile Learning Units
2003 – 2006	Performative Surfaces

Exhibitions

2007	*“Recent Work”,* Brooks Hall Gallery, College of Design, North Carolina State University
2006	*“Bungalow Reconfiguration”*, Design Expo Raleigh, Raleigh, NC
2005	*“Technology Performance Ornament, (*.tpo)”,* Municipal Art Society of New York; Syracuse University School of Architecture; New York Institute of Technology School of Architecture
2005	*“Architecture Edge – Surface”,* LUMP Gallery, Raleigh
2005	*“Voices of Innovation*”, A presentation in the honor of Chancellor James Oblinger in honor of his installation as Chancellor NC State University College of Design

2005 *"ACSA Faculty Design Awards"*, ACSA National Meeting, Chicago, IL
2004 *"Performative Surfaces"*, ACADIA "Fabrications" International Conference Exhibition Cambridge, ON, Canada
2004 *"Critical Mass"*, University of North Carolina, Charlotte
2004 *"NCSU School of Architecture Faculty Exhibit"*, NCSU College of Design
2003 "*Suburban Attractors"*, display of undergraduate studio work, Exhibited at National Beginning Design Conference, Stillwater, OK
2001 *"Immaterial / Ultramaterial",* Harvard University Design School Exhibition
2000 *"MoMA Warehouse",* Harvard University Design School
2000 *"Vane"*, Harvard University Design School Exhibition
1998 *"Drawings of the Getty Villa"*Virginia Tech College of Architecture and Urban Studies

Publications and Lectures

2006 "Technology, Performance, Ornament", seminar guest lecture, School of Architecture,Yale University
2006 "Performance", Digital Material lecture series, School of Architecture, Clemson University
2005 "Performative Surfaces", Proceedings of 2005 Association of Collegiate Schools of Architecture (ACSA) National Meeting, Chicago, IL
2004 "Digital Design and Production: Case Studies in Digital Representation and Production", Seminar Presentation, Building Virginia, Virginia Society AIA, Richmond VA
2004 "Surface Fabrication", Relevance, NCSU College of Design, Student Publication
2004 "Performative Surfaces", Proceedings of 2004 Association of Collegiate Schools of Architecture (ACSA) Northeast Regional Meeting, Syracuse University, Syracuse NY
2004 "Representing the Whole", Proceedings of 2004 Beginning Design Conference; 20th Annual conference on Beginning Design, Department of Architecture, Hampton University; Hampton VA
2004 "Performative Surfaces", Public Lecture, Presentation of Faculty Research and Professional Development grant work, North Carolina State University, Raleigh NC
2003 "Public Space, Territory and Social Activity", Designing Better Communities Lectures The North Carolina Chapter of the American Planning Association Raleigh, NC
2002 "Creases and Plugs", Proceedings of ARCC 2002 International Conference Tempe, AZ
2003 "Opportunities within the Ordinary", National Beginning Design Conference Stillwater, OK
2002 Immaterial – Ultramaterial, Toshiko Mori (Editor) Selection of materials research on gypsum wall board
2000 Harvard University Design School Studio Works 8 Project, Exhibition and Publication, MoMA Warehouse

Memberships

American Institute of Architects; Association of Collegiate Schools of Architecture;

Matthew G. Fineout, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.200	Architectural Design Studio: Composition • 18 units • F02, F03 • Required
48.400	Architectural Design Studio: Occupancy • 18 units • F01 • Required
48.405	Architectural Design Studio: Systems Integration • 18 units • S05, S06 • Required

Education

1990	Master of Architecture, Southern California Institute of Architecture
1985	Bachelor of Fine Arts, University of Michigan

Awards

Awards with Edge Studio

2006	InfoComm/Archi-Tech Magazine Award, Grand Prize, Carnegie Library of Pittsburgh
2005	AIA Pittsburgh Chapter, Certificate of Merit Lawrenceville Technology Center
2005	AIA Pittsburgh Chapter, Certificate of Merit, Carnegie Library of Pittsburgh
2004	AIA Pittsburgh Chapter, Award of Excellence, Gateway Station, Port Authority of Allegheny County
2003	Master Builders Association, Design Award, EDGE studio gallery & offices
2003	AIA Pittsburgh Chapter, Award of Excellence, Water Front Office Park, Building II
2003	AIA Pittsburgh Chapter, Certificate of Merit, Edge Studio, Pittsburgh PA
2003	City of Pittsburgh, Historic Preservation Award, Osterling Flats, Brighton Heights PA
2002	AIA Pittsburgh Chapter, Certificate of Merit AT&T Broad Band Technical Operations & Customer Center, South Strabane PA

Awards with Frank O. Gehry and Associates

1993,	Progressive Architecture Awards, Architectural Design Citation Weisman Art and Teaching Museum, University of Minnesota, Minneapolis MN

Academic Positions / Teaching Experience / Administrative Experience
Adjunct Assistant Professor of Architecture
Architectural Design Studio Instructor

Professional Practice

2005 – current	EDGE studio, Principal and Partner

Selected Projects with Edge Studio

2006 - current	Erie Art Museum, Erie PA
2005 - 07	Carnegie Museums of Pittsburgh Service Facility, Pittsburgh PA
2005 – 06	New Hazlett Theater, Pittsburgh PA
2004	The Andy Warhol Museum, Time Capsule Exhibition, Pittsburgh PA
2003 - current	Gateway Station, Port Authority of Allegheny County, Pittsburgh PA
2003 - 05	Lawrenceville Technology Center, Pittsburgh PA
2003 - 04	Carnegie Library of Pittsburgh Main Branch, Pittsburgh PA

Selected Projects with Frank O. Gehry and Associate

1998 - 00	The Peter B. Lewis Weatherhead School of Management, Case Western Reserve University, Cleveland OH
1997 - 98	The Richard B. Fisher Center for the Performing Arts, Bard College, Annandale-on-Hudson, NY
1992 - 97	Guggenheim Museum, Bilbao Spain
1991 - 93	Weisman Art and Teaching Museum, University of Minnesota; Minneapolis MN

Publications

2006	Design with a Positive Lens: An Affirmative Approach to Designing Information and Organizations; Butler, Brian, CoAuthor; Avital, Michael; Lyytinen, Kalle; Boland, Richard, Editors; Communications of the Association for Information Systems (Volume 18, 519-545)
2005	The Tower of Babel: Bridging Diverse Languages with Information Technologies, Ataman, Osman Editor, 'Smart Architecture: ACADIA Proceedings', Martin Publishing, Champaign IL
2005	Carnegie Library of Pittsburgh; Architectural Record, Vol. 193, No 2. February 2005

Creative Productions, Exhibitions

2007	Convergent Acts: Exploring the Collaborative Process for The New Hazlett Theater, EDGE studio, Pittsburgh PA
2003	Pittsburgh Platforms: New Projects in Architecture + Environmental Design, Group Exhibition, Curator Raymund Ryan, The Heinz Architectural Center, Pittsburgh PA
2002	US/THEM: an exploration of solidarity and otherness; A collaborative process group exhibition Adhoc-Group, San Francisco CA
1995	OPENINGS: A group exhibition presenting diverse approaches towards Architecture: Spanish Kitchen Studios, Los Angeles CA
1993	Urban Folly Group Architectural Exhibition, Wazee Gallery, Denver CO
1993 -	Drawings on Permanent Display, Frederick R. Weisman Museum, University of Minnesota, Minneapolis, Descriptive Geometry Drawings completed for Frank Gehry & Associates

Public Speaking

2005	Lecture "The Tower of Babel: Bridging Diverse Languages with Information Technologies", ACADIA conference, Savannah Georgia
2005	Panel Discussion "Building Information Modeling: 'Smart' Project Management, ACADIA conference, Savannah Georgia
2005	Panel Discussion "IT-Enabled Collaboration in Architecture, Engineering and Construction: Evidence from the Field", ACADIA conference, Savannah Georgia
2005	Workshop "Designing Information and Organization with a Positive Lens", Weatherhead School of Management, Case Western Reserve University
2004	Workshop "Transforming Architecture, Construction and Engineering: The Digital Challenge", Weatherhead School of Management, Case Western Reserve University
2002	Panel discussion "Constructing the Peter B. Lewis Building: A case study in teamwork", Weatherhead School of Management, Case Western Reserve University
1997	Lecture "The Guggenheim Museum Bilbao", Southern California Institute of Architecture

Service

Exhibitions organized

2005	Ornament; Architects Exploring New Materials & Fabrication Processes, Curated by Melissa Urcan
2005	Wolfgang Tschapeller: New Work; EDGE studio gallery Exhibition
2004	Drawings: Steel, Jacob Maendel, Curated by Anya Von Gosseln, Edge Studio Gallery Exhibition
2003	In Situ, Barkow + Leibinger Architekten, 3 Projects, Edge Studio Gallery Exhibition

Registration / Memberships

1995 - current	State of California Architect License
2000 - current	American Institute of Architects

Eric Fisher, RA
Adjunct Assistant Professor

Teaching Area
Design

Courses
Carnegie Mellon University

48.200	Architectural Design Studio: Composition •18 units • F01, F02, F03, F04 • Required
48.305	Architectural Design Studio: Construction • 18 units • S01, S02, S03, S04 • Required

Educational Background

1988	Harvard Graduate School of Design MArch
1982	Dartmouth College Double major: visual arts and engineering. BA

Honors and Awards

2000	Palos Verdes Art Center Six hundred architects submitted work. Finalist.

Professional Practice

2003 – current	Professional Practice: FISHER ARCHitecture Sole Proprietorship. Irwin Residence Squirrel Hill home addition. Schematic design. Fisher House New 2300sf Shadyside home. Under construction. 412 The Lofts Interior condominium redesign. Completed Fall, 2004. 5743 Kentucky Avenue Exterior house renovation and addition. Construction documents. 5850 Centre Avenue Exterior renovation of Pittsburgh condominium residence. Design development.

Academic Positions

2001 – current	Carnegie Mellon University Adjunct Professor of Architecture.

Publications

Current	My literary agent, Malaga Baldi, in New York, is currently submitting my first book, a fictional, architectural memoir entitled “Advancing Backward”, for publication. The book seeks to update and redefine the image of the architect portrayed by Ayn Rand in her 1943 novel, “The Fountainhead”. Chapters are available upon request.
2002	Proceedings of the 2002 International ACSA Conference: “Teaching the Poetics of Structure”
2001	Proceedings of the 2001 National ACSA Conference: “A Beginning Manifesto: Per Manum Pro Manu”, with Jeanine Centuori and M. Victoria Liptak

Service
Community Design Center of Pittsburgh: Renovation Information Network volunteer
Pepperdine University Varsity Crew Coach. 1997-1998

Architectural Registration
Pennsylvania and California

Kevin Gannon, AIA, LEED AP
Adjunct Assistant Professor

Teaching Area
Design

Courses
48.305 Advanced Design and Construction Studio • 18 units • Spring • Required

Educational Background
1988 M. Arch, Yale University
1983 B.E.D., Miami University

Academic Positions / Teaching Experience / Administrative Experience
Adjunct Instructor, Studio Arts Dept. Univ. Pittsburgh (Freehand/Constructed Perspective Drawing)
Dept. of Arch. CMU

Professional Practice (work / projects) / Consulting
Current Bedford Row, Housing
2004 WYEP Radio Center
2004 Collaborative Innovation Center,
2002 Pittsburgh Glass Center
1999 Q4 @ Bedford Square, Mixed Used Master Plan

Public Speaking
2004 Presentation of Case Study, LEED Core and Shell Pilot Program, USGBC Green Build Conference

Community Service
Waldorf School of Pittsburgh, Vice President Board of Trustees
Sustainable Pittsburgh, Project Team Advisor

Professional Memberships
American Institute of Architects
Pennsylvania Society of Architects
U.S. Green Building Council
Architects and Design Professionals for Social Responsibility
Urban Land Institute

Professional Registration
New York, Pennsylvania, West Virginia

Sheldon Goettel, AIA
Adjunct Professor

Teaching Area
Design

Courses
48.300 Structure, Enclosure and Construction Studio • 18 units • Fall • Required

Educational Background
1979 Master of Architecture, Carnegie Mellon University
1972 Bachelor of History, Washington & Jefferson College

Honors and Awards
Historic Review Commission for 728 Penn Avenue Hotel
NAHRO Award for Millvue Acres

Academic Positions / Teaching Experience / Administrative Experience
1979 – current Carnegie Mellon University, Pittsburgh, PA
Adjunct Professor, 1998 - present
Coordinator for Third Year "Site" Studios 1996-2002
Adjunct Assistant Professor 1990 – 1998
Adjunct Instructor, 1979 - 1982
1981-1982 LaRoche College, Department of Interior Design, Pittsburgh, PA
Adjunct Assistant Professor

Professional Practice
1988 – current Perfido Weiskopf Architects, Pittsburgh, PA, Partner
Carnegie Mellon University, Pittsburgh, PA
College of Fine Arts Building, Health and Safety Upgrades to historic building
Bierer Wood Acres, Laurel Highlands Estates and Ft. Mason Village
Master Planning for three public housing communities for the Fayette County Housing Authority
R.B. Harrison Village and Crawford Village, McKeesport, PA
Master Planning for two 1950's era public housing neighborhoods for the McKeesport Housing Authority
Uansa Village, Pittsburgh, PA
37 units of reconstructed public housing for the Allegheny County Housing Authority
Steel City Terrace Hope VI, 153 units of new rental and for-sale housing
Malleable Heights, Sharon, PA
Reconstruction of 100 units of public housing for Mercer County Housing Authority
Millvue Acres – Clairton, PA
Reconstruction of 74 units of housing for the Allegheny County Housing Authority.
W. A. Young & Son's Foundry & Machine Shop-Rice's Landing, PA
Historic preservation of a turn of the century foundry as part of the "Rivers of Steel."
Palace Theatre - Greensburg, PA
Phased expansion and historic restoration of a 1,400-seat theatre.
Mt. Alvernia Motherhouse Renovation - Pittsburgh, PA
Renovation of the Motherhouse of the Sisters of St. Francis of Millvale.
Edwards Court Townhouses - Pittsburgh, PA
Ten new townhouses for the Southside Local Development Company.
St. Therese Plaza – Munhall, PA
Reconstruction of a failed curtainwall and replacement with a chambered rain screen
William Moorhead Towers - Pittsburgh, PA
Reconstruction of the curtainwall of an occupied highrise.
Clairveaux Commons - Indiana, PA
Reconstruction of a failed curtainwall.
Emery Towers-Bradford, PA
Reconstruction of the curtainwall of an occupied highrise for the elderly.

1984 – 1988 Arthur Lubetz Associates, Pittsburgh, PA, Associate
Field Robotics Center, Carnegie-Mellon University - Pittsburgh, PA
Phased conversion of the Bureau of Mines Powerhouse into offices and laboratory facilities for the production of prototype robots.
Benedum Mansion - Pittsburgh, PA
Additions and alterations for conversion of the building to six condominiums.
North Woodland Road (Shadyside) - Pittsburgh, PA
Forty new townhouses on the Benedum Mansion site
Ellsworth Mews - Pittsburgh, PA
Seventeen new townhouses in North Oakland.
Arcade Condominiums - Chautauqua, NY
Conversion of an historic structure on the Chautauqua grounds into condominiums, Including the historic restoration of the exterior.

Service

2004 Chairman of Media Arts Quarter Committee
1993 – current Member, Board of Directors, Pittsburgh Filmmakers, 1993 - Present
President 2000 – 2004, Member of Long Range Planning Committee and Chairman, Education Committee, 1994 – Present
1991 – current Member, Long Range Options Task Force, 1991 - 1993 and Building Committee, 1993 - Present
1989 – current Member, Board of Directors, West Park Court, Inc. & Chairman, Facilities Committee
1991 – 1997 Member, Board of Trustees, Sunnyhill Unitarian Universalist Church of the South Hills
President of the Congregation 1996-1997
Vice President, 1995-1996

Professional Memberships / Registration

National Council for Architectural Registration Boards (NCARB)
Professional Architect Registration – Pennsylvania
Member, Building. Officials & Code Administrators (BOCA)
American Institute of Architects
Graduate, Leadership Pittsburgh, June 2004

Jonathan Golli
Adjunct Assistant Professor

Teaching Area
Design

Courses (since 1999)
48.200 Composition • 18 unit course • Fall • Required

Educational Background
2001 - 2005 Professional Master of Architecture, University of Toronto
1992 - 1996 B.S. Mechanical Engineering, Pennsylvania State University

Honors and Awards
2005 Irving Grossman Memorial Prize
2005 RAIC Honour Roll
2004 Ontario Architects Association (OAA) Scholarship recipient
2002 University of Toronto Fellowship

Academic Positions / Teaching Experience
Current Adjunct Assistant Professor, currently assigned to teach Second Year Studios
2002 - 2005 Teaching Assistant, University of Toronto

Professional Practice:
Selected Projects with Edge Studio
2006 - current Gateway Center Light Rail Station, Port Authority of Allegheny County, Pittsburgh PA
2007 - current Pillow Factory Lofts, Strip District, Pittsburgh Pa.
2006 - current Dapplegray Residence, Los Angeles Ca.

Selected Projects with Steven Lombardi Architect
2005 - 2006 Demers Residence, San Diego Ca.
2004 - 2006 Santa Monica Mixed-Use Complex, San Diego Ca.

Selected Projects with Perkins Eastman Architects, Pittsburgh Pa.
2002 Helen S. Faison Arts Academy, Pittsburgh Pa.
2003 Pennsylvania Hall Dormitory, University of Pittsburgh, Pittsburgh Pa.

Personal Projects
2006 Domus Magazine Pyongyang Hotel Ideas Submission, Korea
2006 Global Green Housing Competition, New Orleans, Semi-Finalist
2003 Common Ground Homeless Shelter Competition, New York

Engineering Experience
2000-2001 Metso Bulk Materials Handling - Pittsburgh Pa., Mechanical Design Engineer
1999-2000 Union Switch & Signal - Pittsburgh Pa., Mechanical Applications Engineer
1997-1999 EMC International Inc. - Pittsburgh Pa., Mechanical Design Engineer

Professional Memberships / Registration
Registered NCARB IDP intern

Mark D. Gross, PhD
Professor

Teaching Area
Computational Design & Robotics, Design Research

Courses

48.570	Making Furniture Interactive, Architectural Robotics
17-909	Strategies for Research in Design
48-513	Digital Fabrication: How to Make Things
	Design Research Summer School

Educational Background

1986	Massachusetts Institute of Technology, Ph.D.
1978	Massachusetts Institute of Technology, BSAD

Teaching / Administrative Experience

2004-present	Carnegie Mellon University
1999-2004	University of Washington
1990-1999	University of Colorado

Current Research Activities
Summer Workshops in Software Design Research Methods (NSF: $130K)
Computational Construction Kits & Craft, (NSF: $1.8M)

Scholarship / Publications (recent, selected)

2007	Environments for Creativity – A Lab for Making Things, Intl Conf on Creativity and Cognition
2007	Why Toys Shouldn't Work "like Magic" Digital Game and Intelligent Toy Enhanced Learning (DIGITEL)
2007	A Brief Survey of Distributed Computational Toys, (DIGITEL)
2007	Strategies for Research about Design, Design Science Research in Information Systems & Technology
2007	Computing in the Woodwork: bilocative furniture-based interfaces, in Ubiquitous Computing
2006	roBlocks: A Robotic Construction Kit for Mathematics and Science Education, Multimedia Interaction
2006	The Designosaur and the Furniture Factory, Design Computing and Cognition
2006	Flow Select, Advanced Visual Interfaces
2006	FlexM: Designing a Physical Construction Kit for 3D Modeling" Intl Journal Architectural Computing
2006	Energy Cube and Energy Magnets, Intl Journal Architectural Computing
2004	Let there be light, Intl J.Architectural Computing.
2003	A Physical Computing Studio, Intl J. Arch. Comp.
2003	Design of Software and Software for Design, J. Human Interface Society (in Japanese)

Public Speaking

2007	Invited, Brown University, Dagstuhl Germany,
2006	Keynotes in Denmark, Sweden
2002	Keynotes in Japan
2000	Keynotes in Netherlands
2000	Keynotes in Brazil

Service

Academic	Committee service for Department, College, and University
	Workshop Organizer, "Let's Get Physical: Tangible Interaction for Design" at 2nd International Conference on Design Computing and Cognition
Community	Volunteer firefighter, Four Mile Canyon Fire Dept
Professional	Annually peer review over 80 abstracts, papers, book manuscripts, tenure and promotion reviews, advisory boards for design computing conferences and journals, grant proposal refereeing for US, UK, Canada.

Memberships / Registration
Member: Association of Computer Aided Design in Architecture, Association for Computing Machinery, International Electronic and Electrical Engineers Computer Society.

Kai Gutschow, PhD
Assistant Professor

Teaching Areas
Design, History

Courses

48.200	Architecture, Design & Composition • 18 units • F99, F00, F01, F02, F04, F05, F06, F07 • Required
48.205	Architecture, Design & Materials • 18 Units • S00, S02, S03, S05, S06, S07 • Required
48.340	Modern Architecture & Theory 1900-1945 • 9 Units • F99-F02, F04-F06, F07 • Elective
48.441	Frank Lloyd Wright & His Taliesin Legacy • 9 units • S99 • Elective
48-441	Frank Lloyd Wright: Precedent, Analysis and Transformation • 9 units • S05 • Elective
48.341	Frank Lloyd Wright & His Times • 9 units • S00, S01, S03, S05 • Elective
48.341	History of Architectural Theory • 9 units • S01, S02, S06 • Elective

Educational Background

2005	PhD, Columbia University
1997	M.Phil., Columbia University
1993	M.Arch., University of California at Berkeley
1986	B.A., Swarthmore College

Honors & Awards

1998 – 1999	Columbia University Dissertation Fellowship
1997 – 1998	Fulbright Fellowship, Berlin, Germany
1997 – 1998	Studienstiftung des Abgeordnetenhauses von Berlin
1993 – 1997	Jacob Javits Fellowship
1993 – 1997	Columbia University Fellow of the Faculty
1986	Phi Beta Kappa

Academic Positions

2000 – current	Carnegie Mellon University, School of Architecture, Assistant Prof., tenure-track
1998 – 2000	Carnegie Mellon University, School of Architecture, Visiting Assistant Prof.
1996	Washington State Univ., School of Architecture, Visiting Assistant Prof., Spring

Research

2005	Research grant for "Architectural Restoration and Conservation (ARC) of Carved Wood Interiors," 2004-2005, Enkeboll Foundation, total of $78,000 split between three schools. Lead students in project to analyze interior woodwork of a F.L. Wright house as case study to determine design principles and formal systems, and from these generate new designs for possible production by Enkeboll.
1999	Curator of "Taliesin Apprentices: Seven Decades of Organic Architecture" exhibit at Pittsburgh AIA Gallery, June 1-12, 1999; Hewlett Gallery, CMU, Aug. 23 - Sept. 10, 1999. Funding of $25,000 through AIA Pittsburgh, F.L. Wright Foundation & CMU SURG Grant

Scholarship / Publications (Recent)
Inventing Expressionism: Art, Criticism, and the Rise of Modern Architecture, book manuscript in preparation.
"An Officer or a Critic: Patriotism and Jewish Identity in German Modern Architecture," manuscript in preparation for Journal of Society of Architectural Historians.
"Building a Democratic Art: Adolf Behne's Expressionist Art Criticism," manuscript accepted for issue on "Art and Democracy," ed. Piotr Piotrowski Centropa (proposed for 2008).
"*Das neue Afrika*: Ernst May's Kampala Plan as Cultural Program," chapter in Colonial Architecture and Urbanism in Africa: Intertwined and Contested Histories, ed. Fassil Demissie (Johannesburg: University of South Africa Press, in press).
"Zwischen Amt und Kritik: Zum Konzept einer deutschen Moderne in der Architekturpublizistik von Walter Curt Behrendt," in Architektur und Assimilation. Die jüdischen Baumeister Berlins, ed. Sylvia Claus and Harold Hammer-Schenk (Zurich: gta-Verlag, in press).
"The Anti-Mediterranean in the Literature of Modern Architecture: Paul Schultze-Naumburg's *Kulturarbeiten*," in North-South. The Mediterranean Ideal in Modern Architecture, ed. Jean-Francois Lejeune & Michelangelo Sabatino (New York: Princeton Archit'l Press, in press).
"From Object to Installation in Bruno Taut's Exhibit Pavilions," special issue on "Installations by Architects," Journal of Architectural Education (JAE) 59, n.3 (May 2006): 63-70.

“Modern Planning as Civilizing Agent: Ernst May’s Kampala Extension Scheme,” in Recalibrating Centers & Margins: Proceedings of the 2003 ACSA Conference (Washington DC: ACSA, 2004), pp. 240-247.
“Germany,” “Frankfurt,” “Taut, Bruno,” and “Werkbund Exhibition, Cologne 1914,” entries in Encyclopedia of Twentieth-Century Architecture, 3 vols., ed. Richard S. Sennott (New York: Fitzroy Dearborn, 2004), pp. 472-474; 494-498, 1305-1307, 1439-1440.
“Behne, Adolf,” and “Behrendt, Walter Curt,” entries in Dizionario dell’architettura del 20. secolo, vol. 1, ed. Carlo M. Olmo (Turin: Allemandi, 2000), pp. 198, 201.

Public Speaking / Conference & Symposium Talks (Recent)

2008	""*Bauen*: Expressionism and the Course of Modern Architecture,” paper accepted for the College Art Association (CAA) panel “Radical Failure: Unrealized Exhibitions and Publications,” for annual conference in Dallas, TX, Feb. 2008.
2006	“Expressionism as Democratic Art: Adolf Behne’s Criticism of Art For and By the People,” paper at panel of “Art & Democracy,” sponsored by Historians of German and Central European Art (HGCEA) at the College Art Association (CAA) conference, Boston, 2006; panel being developed for special issue of Centropa.
2006	“Expressing a ‘Higher Passion to Build’: The Impermanent Nature of Bruno Taut’s *Glashaus* as Critique of Capitalism,” paper at Center for Arts and Society conference “(Im)Permanence,” CMU, 2005.
2003	"Zwischen Amt und Kritik: Die Wirkungen von W.C. Behrendt auf die moderne Architektur,” DFG symposium "Architektur u. Assimilation. Jüdische Baumeister Berlins," at F.U. Berlin, Sept. 13, 2003.
2003	"Modern Planning as Civilizing Agent: Ernst May's Kampala Extension Scheme," paper at ACSA Conference "Recalibrating Centers & Margins", Louisville, KY, March 16, 2003.
2002	"Example-Counterexample: The Role of Visual Comparisons in Creating Modern Architecture," 13th Berkeley Symposium "Interdisciplinary Approaches to Visual Representation", Berkeley, Mar. 2002.
2001	"Vernacular Architecture in the Age of Mass Media: Publishing the *Um 1800* Aesthetic around 1900," paper at Society of Architectural Historians (SAH) Conference, Toronto, Canada, April 18, 2001.
2000	"Aluminum: Just another Word in Otto Wagner’s Material Vocabulary?," Aluminum Symposium, Carnegie Museum of Art, Pittsburgh, Nov. 11, 2000. Announced in Pittsburgh Post Gazette, Nov. 9.

Service

2000 – 2007	School of Architecture: Admissions Committee, 2006-07; Studio Curriculum Committee, 2007; Architectural History Committee; Lecture Series Head, 2002-2003 CFA : Research Committee, 2006-07; College Council; CMU: Center forArts in Society, 2005-07; University Education Committee; AIA Pittsburgh Foundation for Architecture: Board Member. ACSA Reader, Nominating Committee

Memberships

Society of Architectural Historians; College Art Association; Association of Collegiate Schools of Architecture; German Studies Association; Historians of German & Central European Art & Architecture.

Michael Gwin, AIA, LEEP AP
Adjunct Assistant Professor

Teaching Area
Design

Courses
48.305 Architecture Design Studio, 3rd Year: Advanced Design and Construction • 18 units • Spring • Reqd

Educational Background
1998 Bachelor of Architecture, Virginia Polytechnic Institute and State University
1996 – 1997 Washington Alexandria Architecture Consortium of VPI&SU

Honors and Awards
2006 AIA Honor Award, AIA Pennsylvania, The Barn at Fallingwater- with BCJ Architects.
2006 AIA Honor Award, *AIA Pittsburgh*, Macromedia Corporate Headquarters - with BCJ Architects.
2006 Wood Design Award, *American Wood Council*, The Barn at Fallingwater - with BCJ Architects.
2005 AIA Silver Medal, *AIA Pittsburgh*, The Barn at Fallingwater -with BCJ Architects.
2005 AIA Green Design Citation, *AIA Pittsburgh*, -with BCJ Architects.
2005 Top Ten Green Projects, *AIA-Committee on the Environment* -with BCJ Architects.
2005 American Architecture Award, *Athenaeum of Chicago,* Apple Store, North Michigan Avenue, Chicago, Apple Computer Inc. – with BCJ Architects
2005 American Architecture Award, *Athenaeum of Chicago, The Barn at Fallingwater* – with BCJ Architects
2004 AIA Honor Award, *AIA Pittsburgh,* Apple Store, North Michigan Avenue, Chicago, Apple Computer Inc. – with BCJ Architects.
2004 Citation of Merit for Design, AIA Pennsylvania, Apple Store, North Michigan Avenue, Chicago, Apple Computer Inc. – with BCJ Architects.
2002 Design Award, *AIA Northeast Pennsylvania*, Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
2001 Excellence in Design Award, *AIA New York State,* Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
2001 Honor Award, AIA Pennsylvania, Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
2001 American Architecture Award, *Athenaeum of Chicago*, Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
2000 Silver Medal for Design, *AIA Pittsburgh*, Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
2000 Excellence in Detailing, *AIA Pittsburgh*, Corning Museum of Glass, Rakow Research Library – with BCJ Architects.
1998 Mathew Krahe Memorial Award, *Virginia Polytechnic Institute and State University*
1997 Excellence in Studio Award, Washington Alexandria Consortium of VPI&SU
1996 Third Year Studio Design Competition-runner up, *Virginia Polytechnic Institute and State University*

Academic Positions / Teaching Experience / Administrative Experience
2007 – current Carnegie Mellon University, School of Architecture. Pittsburgh, PA.
Adjunct Assistant Professor, Third Year Architectural Design Studio (2007)

Professional Practice
1998 – current Associate - Bohlin Cywinski Jackson Architects. Pittsburgh, PA.
1996 – 1997 Douglas/Gallagher. Washington, DC.

Select clients / projects include:
Bohlin Cywinski Jackson:

Caltech University, Schlinger Center for Chemistry and Chemical Engineering
Apple Computer Inc, Research and Development Office, CIC Pittsburgh
Macromedia Corporate Headquarters, San Francisco
Apple Computer Inc, Shadyside Apple Store, Pittsburgh
The Barn at Fallingwater, Western Pennsylvania Conservancy

Apple Computer Inc, North Michigan Avenue Apple Store, Chicago
University of Illinois, Thomas M. Siebel Center for Computer Science
Corning Museum of Glass, Rakow Library
Sigma Xi, The Scientific Honorary Society, Headquarters and Scholars Center

Publications

2006	Wood Design and Building Magazine, The Barn at Fallingwater
2005	Architectural Record, The Barn at Fallingwater
2002	Architectural Record, Corning Museum of Glass, Rakow Research Library

Creative Production/Exhibition

2000	Bohlin Cywinski Jackson : Sketches : Models : Buildings. Philadelphia, PA. Corning Museum of Glass, Rakow Research Library: Design drawings and models, FAARM Gallery, Center for the Cultivation of Art and Architecture.
2002	Bohlin Cywinski Jackson : Sketches : Models : Buildings. Philadelphia, PA. Sigma Xi center: Design drawings and models, FAARM Gallery, Center for the Cultivation of Art and Architecture.

Service

2006 - current	Lawrenceville Historical Society – Board Member

Professional Memberships / Registration

Registered Architect, State of Pennsylvania.
American Institute of Architects
USGBC - LEED – Accredited Professional

Volker Hartkopf, PhD
Professor

Teaching Area
Design, Technology

Courses

48.723	Performance of Advanced Building Systems • S99, S00, S01, S02, S03, S04, S07, S08
48.540	Powering the Campus of the Future • F01, S08
48.415	Advanced Building Systems • S99, S00, S01, S02, S03, S04, S07, S08

Educational Background

1989	University of Stuttgart, Germany, Engineering/Architecture, Dr. Ing. (Ph.D.)
1972	University of Texas at Austin, Architecture/Business Admin. (minor), Master
1969	University of Stuttgart, Germany, Engineering/Architecture, Diplom Ing.
1964	University of Stuttgart, Germany, Architecture, Vordiplom (B.S.)

Honors and Awards

2004	Honorary Doctorate for "Lifelong Dedication to the Environment", Sierra Nevada College
1999	Business Week/Architectural Record Award 1999 sponsored by the American Institute of Architects (AIA), October.
1999	Honor Award for Architecture and Design for the design of the Robert L. Preger Intelligent Workplace, May.

Academic Positions / Teaching Experience / Administrative Experience

2003 – current	Visiting Professor, Southeast University, Nanjing, China
1981 – current	Tenured Professor, Carnegie Mellon University, Pittsburgh, PA

Professional Practice/Consulting
Professor Hartkopf continues his consulting with such organizations as DaimlerChrysler, Volkswagen, Thyssen Krupp, Electricite de France, U.S. Department of State, U.S. Department of Energy, and Siemens. His leadership has resulted in applications of advanced systems integration concepts in buildings in Asia (Seoul, Korea; Beijing, China (Ministry of Science and Technology, Tsinghua University); Europe (EDF, Paris, France; Germany, Mercedes Benz Marketing Academy, Stuttgart, Germany); North America (Owens-Corning HQ, Toledo, Ohio). In September of 2007, he was appointed Chairman of the United Nations Environmental Programme (UNEP) Sustainable Construction Buildings Initiative (SCBI), Washington, DC.

Research
Professor Hartkopf created the Intelligent Workplace concept, and secured the necessary funding for its construction, as well as being part of the design team. Currently he is leading the Building as Power Plant™/Invention Works (BAPP) project. The BAPP has been selected by the US Congress as the National Test-bed for Advanced Building Efficiency and received appropriations for fiscal years 2004 and 2005. The 6,500 m2 project is part Carnegie Mellon's strategic plan and will be realized on campus. The BAPP will integrate advanced energy-effective building technologies with innovative energy generation systems, such that all of the buildings energy needs for heating, cooling, ventilating and lighting, as well as equipment are met on-site, maximizing the use of renewable energies. Broader implementation of its concepts in industry and government here and abroad are expected. Since 1972 Professor Hartkopf's leadership in research secured approximately $20 million in funding to Carnegie Mellon University.

Scholarship / Publications
(2 books, 13 chapters, 25 invited/referred journal articles, 70 conference proceedings):

2007	Hartkopf, V., "Startschuss für eine transatlantische Brücke", Pages 41-43 in *Politische ¨økologie [105], Nachhaltiges Design Laboratorium für industrielle Neuanfänge*, Preise Unsere Einzelheft-und Abo-Preise finden Sie auf den letzten beiden Seiten des Heftes, Juni 2007
2007	Hartkopf, V., Loftness, V., "Strategies for sustainable built environments", Section 3: Transforming Communities Pages 170-181 in *Connected Real Estate*, Editors O'Donnell, Kevin, Wagener, Wolfgang, Torworth Publishing, UK. 2007
2005	Hartkopf, V., Loftness, V., Aziz, Azizan, Hua, Y., Intelligent Buildings-Professional and Educational Implications of Innovations in Building and Construction Pages 551-558 in *CIB-W78 Conference July 19-21, 2005*, invited presentation/paper, Editors Scherer, R.J., Katranuschkov, P., Schapke, S.-E., Published by: Institute for Construction Informatics, Technische Universitat Dresden, Germany

2005 Hartkopf, V., Loftness, V., Aziz, A., "The Robert L. Preger Intelligent Workplace™ and the Building as Power Plant™/Invention Works at Carnegie Mellon University" in Creating the Productive Workplace, editors Derek Clements-Croome and C. Mallinder, London, Spon Press 2005

2005 Hartkopf, V., et al., (2005) "Building as Power Plant", Chapter 6 in Part 3 — Emerging Technologies and Tools, Smart and Sustainable Built Environment, Editors Yang, J., Brandon, P. S., and Sidwell A.C., Blackwell Publishing, UK.

2004 Hartkopf, V., V. Loftness, "Architecture, the Workplace, and Environmental Policy," in The Innovative University, editors Daniel P. Resnick and Dana S. Scott, Pittsburgh: Carnegie Mellon University Press, 2004, pp. 181-194.

Creative Productions

2000 Berlin, Lichtenberg, Germany - led Invited Urban Design Competition

Public Speaking

(most recent of over 40 invited lectures and keynotes)

2007 University College of Cork Ireland, Inaugural Lecture, September 2007,

2007 Institut Paul Bocuse, one day workshop, Paris France, September 2007,

2007 University of Vinnova, Sweden, May 2007

2005 June 23 Archiprix, Keynote Glasgow, Scotland, UK

2004 Nov.– Reno NV – Keynote Address, Sustainable Building Conference & Workshops, Office of the Governor of the State of Nevada

2004 Oct. – Paris France – Session Chair (2 session chairs and 1 public presentation), ICEBO, Paris, Joint conference with Centre Scientifique, Technologique du Bâtiment (2005 Conference to be held at Carnegie Mellon University in October)

2004 Oct. – Darmstadt, Germany – Keynote Address, Symposium – Environmentally Friendly Product Development

2004 May – Incline Village, NV - Commencement Address, Sierra Nevada College

2003 Nov. – Brisbane, Australia – Keynote Address, CIB Conference Smart & Sustainable Built Environment,

2003 May – Sydney, Australia – Keynote Address, IFMAA International Facilities Management Association Australia, Annual Congress

Service

Academic Chair, Faculty Senate, during transition from Pres. Cyert to Pres. Mehrabian (1989-1990)

Community Trustee/Board Member, Pittsburgh History and Landmarks Foundation

Professional Pilot Partner, Laboratories for the 21st Century, EPA/DOE/CMU

Professional Memberships/Registration

Architektenkammer Baden-Württemberg, Germany since 1974

ASTM Committee E.6, founding member of committee on Whole Building Performance Club of Rome, United States Section

Kelly Hutzell
Caste Assistant Professor

Teaching Area
Design, Urban Design

Courses

48.500	Architectural Design: Urban Lab • Units 18 • F05, F06, F07 • Required
48.505	Architectural Design: Studio X • Units 18 • S06, S07, S08 (Qatar)• Required
48.576	Urban Design Seminar: Mapping Urbanism • Units 9 • F05, S07, F07, S08 (Qatar) • Elective
48.593	Graphic Design Seminar: Portfolios, Presentations, Publications • Units 9 • S06 • Elective
48.706	Architecture Design Studio: Masters of Urban Design • Units 18 • S06 • Required

Educational Background

2001-2002	Master of Science in Architecture and Urban Design, Columbia University, New York
1991-1996	Bachelor of Architecture, Roger Williams University, Bristol, Rhode Island

Honors

2005-present	Lucian & Rita Caste Visiting Professor Chair, Carnegie Mellon University
2006-present	Global Education Grant, "Mapping Urbanism" course, Carnegie Mellon University
2005	Honorable Mention, "In the Pursuit of Housing" competition, Boston Society of Architects
2002	Lucille Smyser Lowenfish Memorial Prize, Columbia University
2002	William Kinne Fellows Prize, Columbia University

Academic Positions

2005-present	Assistant Professor, Department of Architecture, Carnegie Mellon University, Pittsburgh
2007	Guest Instructor, Antwerp Design Seminars & Lectures (ADSL) week, Higher Institute of Architectural Sciences Henry van de Velde Institute, Antwerp, Belgium
2006	Pre-college Lecturer, School of Architecture, Northeastern University, Boston
2001-2002	Graduate Research Assistant, Urban Design, Columbia University, New York

Administrative Experience

2007-present	Chair, Carnegie Mellon School of Architecture Awards/Publications Committee
2005-2007	Committee Member, Carnegie Mellon School of Architecture "Remaking Cities Institute"
2006	Academic Advisor, Urban Land Institute Competition
2006-2007	Studio Coordinator, Urban Lab, Carnegie Mellon School of Architecture

Professional Practice

2005-present	Senior Associate, over,under, Boston, Massachusetts
	"Re-imagining Boston City Hall" Proposal, Boston Society of Architects
	"Urban Voids: Grounds for Change" Competition, Van Alen Institute
2003-2005	Senior Designer, Machado and Silvetti Associates, Boston, Massachusetts
	University of Arkansas Walker Hall, Sam M. Walton College of Business, Fayetteville
	Shady Hill School Gymnasium and Art Studio Complex, Cambridge, Massachusetts
	Hassayampa Academic Village, Arizona State University, Tempe, Arizona
	Atelier 505 at the Boston Center for the Arts, Boston, Massachusetts
	Silver Spring Town Square, Civic Building and Veterans Plaza, Silver Spring, Maryland
2002	Senior Designer, Schwartz Silver Architects, Boston, Massachusetts
	Old Northern Avenue Bridge proposal, Boston, Massachusetts
1998-2000	Designer, HOLST Architecture, Portland, Oregon

Exhibitions

2007	"Re-imagining City Hall," Pinkcomma Gallery, Boston, Massachusetts
2006	Roger Williams University Alumni Exhibit, Bristol, Rhode Island
2005	"In the Pursuit of Housing," Boston Society of Architects Building, Boston, Massachusetts
2000	"The Bullseye Chandelier Project," Bullseye Connection Gallery, Portland, Oregon

Research

2007-present	Architecture and Urban Design Guidelines for Qatar Design Zone
2006-present	"Mapping Urbanism," Global Education Grant awarded by Carnegie Mellon University

Publications

2007	"Re-imagining City Hall." *Architecture Boston,* Volume 10 Number 5, September/October 2007: 26-39.
2006	Diez, Fernando. "Domesticando Arizona." *Summa Mas: 83*, November 2006: 96-103.
2004	Leston, Eduardo. "Obras Recientes de Machado y Silvetti." *Summa Mas: 67*, July 2004: 50-99.
2004	Smith, Frimmel. "Building as Placemaker: The Silver Spring Civic Center." *Competitions Magazine,* Spring 2004: 4-6.
2004	Tyrrell, Michael J. "Old Northern Avenue Bridge Proposal," *Images of America: Boston's Fort Point District.* Portsmouth, New Hampshire: Arcadia Publishing, 2004. 128.
2003	Palmer Jr., Thomas C. "A link revisited: New vision to preserve Northern Avenue Bridge is gaining Momentum." *Boston Globe* newspaper 6 August, 2003: C1.
2002	"Gowanus Canal, Brooklyn." *Abstract 2001-2002*. New York: Columbia University, 2002.
2002	"Repositioning Belgrade: Nomadic Landscapes." *Abstract 2001-2002*. New York: Columbia University, 2002.
2002	"Urban Design: Practices, Pedagogies, Premises" *Conference Program*, Columbia University GSAPP & Harvard University GSD, Van Alen Institute, April 5-6, 2002.
2002	Gragg, Randy. "Multiplied Light: The Bullseye Chandelier Project." *Architecture Week*. 10 April 2002.

Public and Invited Speaking

2007	"The Charm Bracelet Project" Co-presented at the 2007 Annual Conference of the Mid-Atlantic Association of Museums, Children's Museum of Pittsburgh
2007	"Speaking of Cities…" Presented at Carnegie Mellon University International Festival
2007	"The Urban Lab" Presented at the International Society of City and Regional Planners (ISOCARP) Congress, Antwerp, Belgium
2007	"What is a World Class City?" Presented at Carnegie Mellon University, Doha, Qatar

Service

2007-present	Chair, Awards & Publications Committee, School of Architecture, Carnegie Mellon University
2005-2006	Committee Member, Remaking Cities Institute, Carnegie Mellon University
2003-2005	Guest Teacher, *Learning By Design*, Boston Society of Architects
2000	Guest Teacher, *Architects In Schools*, AIA Portland, Oregon

Donald Johnson, RA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.100	Methods & Transformations in Form • 12 units • Fall • Required
48.105	Methods & Transformations in Space • 12 units • Spring • Required

Educational Background

2000	Master of Architecture, Yale University
1998	Bachelor of Architecture, Carnegie Mellon University

Honors and Awards

1997	Stewart L. Brown travel award, Carnegie Mellon University and Pittsburgh AIA
1995	Western Pennsylvania Concrete and Masonry Association Design Competition, 2nd Place

Academic Positions / Teaching Experience / Administrative Experience

2006 – Current	Adjunct Assistant Professor, Carnegie Mellon University
2006	Interim Coordinator of Student Programs, Carnegie Mellon University
1999 – 2000	Teaching Fellow and Instructor, Yale University

Professional Practice

Current	Perkins Eastman Architects P.C., Pittsburgh, PA
2000 - 2006	Associate and Staffing Coordinator, Robert A.M. Stern Architects L.L.P., New York, NY

Publications

2003	Robert A.M. Stern: Buildings and Projects 1999-2003, ed. Peter Morris Dixon (New York, The Monacelli Press 2003)
2001	CAC Hadid Studio Yale: Contemporary Art Center Zaha Hadid Studio 2000 Yale School of Architecture, ed. Nina Rappaport (New York, The Monacelli Press 2001)
1999	*Retrospecta*, Yale School of Architecture

Service

Current	A.I.A.S. Faculty Advisor, Carnegie Mellon University
1999 – 2000	Rules Committee, Yale University

Professional Registration
Registered Architect, New York

Jeffrey King, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses
48.400 Architecture Design Studio: Occupancy • 18 Units • F01 • Required

Education
2001 Master of Architecture, Tulane University, New Orleans, LA
1988 Bachelor of Architecture, Tulane University, New Orleans, LA

Awards
Awards with Office of Peter Rose
2000 New York Chapter, American Institute of Architects; Honor Award, (with Peter Rose)
1999 Chicago Chapter, American Institute of Architects Honor Award, (with Peter Rose)

Academic Positions / Teaching Experience / Administrative Experience
2003 – Present Adjunct Assistant Professor of Architecture, Carnegie Mellon University
1996 Boston Architectural Center
1991 Catholic University, Washington DC
Various Invited critic at Pratt Institute, Cooper Union, Roger Williams College, Kent State University

Professional Practice
Selected works EDGE Studio
2006 - 2007 University of Pittsburgh School of Engineering renovation and expansion, Pittsburgh, PA
2006 - 2007 Orchard Hill Church expansion, Wexford, PA
2003 - 2005 930 Penn Avenue mulit family residential, Pittsburgh, PA
Selected works Office of Peter Rose
2000 - 2002 House and Studio for Artist, Sharon, CT
1998 - 2002 Bronfman House, New York, NY
1997 - 2000 Chicago Bears Training Camp and Headquarters, Lake Forest, IL
Selected works Agrest and Gandelsonas Architects
1994 – 1995 Melrose Community Center, Bronx, NY
Selected works Richard Meier and Partners
1992 – 1994 Rachofsky House and Art Gallery, Dallas, TX
1992 – 1993 Siemens GmbH Headquarters, Munich Germany
1990 – 1993 Swiss Volksbank Headquarters, Basel, Switzerland
Selected works Ancher Mortlock and Wooley Architects
1988-1989 Autstralian Public Broadcasting Studios and Performance Space, Sydney, Australia)

Registration / Memberships
NCARB certified, American Institute of Architects, Licensed Architect
Central Northside Leadership Council, Pittsburgh
Mexican War Streets Society, Pittsburgh
Federal North Development Committee, Pittsburgh
Allegheny Commons Park Design Committee, Pittsburgh

Jonathan Kline
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.500	Architecture Design Studio: The Urban Laboratory • 18 units • F02, F03, F04, F07 • Required
48.505	Studio X: Design in the Urban Context • 18 units • S03, S04 • Required
48.708	Urban Design Thesis • 24 units • Su06 • Required

Education

2007	Master of Fine Arts, The Pennsylvania State University, Graduate Fellow
1998	Bachelor of Architecture, Carnegie Mellon University, with University Honors

Academic Appointments

2002 – current	Carnegie Mellon University – School of Architecture, Adjunct Assistant Professor
2007	Carnegie Mellon University – Remaking Cities Institute, Research Fellow
2006 – 2007	The Pennsylvania State University – School of Visual Arts, Instructor and Graduate Fellow
2004	Carnegie Mellon University – STUDIO for Creative Inquiry, Associate Fellow – Planning Coordinator, 3 Rivers 2nd Nature

Professional Practice

2007 – current	Studio for Spatial Practice Principal
2002 – 2007	Independent Consultant Urban Design, Community Workshops, Architectural Rendering
1998 – 2002	Urban Design Associates, Pittsburgh Assistant Design Team Leader, Architectural Intern
1993 – current	Practicing Artist Painting, Drawing, Installation & Community Projects

Scholarship/Publications

2006	Looking for Braddock's Fields – paper delivered with Christine Brill at the Association for Community Design Annual Conference, June 5 - 7, 2006, Los Angeles, CA
	The Urban Laboratory – paper delivered with Anne-Marie Lubenau at the Association for Community Design Annual Conference, June 5 - 7, 2006, Los Angeles, CA
2005	Ecology and Recovery - Allegheny County – 3 Rivers 2nd Nature with Timothy Collins, Kostoula Vallianos and Cyril Fox, A landscape ecology based riverfront conservation plan
2003	GroundZero Action Network – paper delivered at The Monongahela Conference on Post Industrial Community Development – Art, Ecology and Planning with People Influencing Public Spaces We Care About, October 23-25, 2003. Carnegie Mellon University

Urban Design Projects [selected]

Martin Luther King Boulevard Corridor Study (Partnered with Rothschild Doyno Architects)
Corridor study for Newark, New Jersey's Central ward
Felix Fuld Neighborhood (Partnered with Rothschild Doyno Architects)
Redevelopment of Newark, New Jersey public housing into a new mixed-use community
The River's Edge at Oakmont (Partnered with Rothschild Doyno Architects)
Redevelopment of a riverfront brownfield into a new mixed-use neighborhood
Riverfront Planning Projects (Urban Design Associates)
Pittsburgh, Cincinnati, Minneapolis, Asheville and New York City
Neighborhood Master Plans (Urban Design Associates)
Pittsburgh, Charlotte, Winston Salem, Norfolk, Warren, St. Louis, Knoxville, Cleveland and Bussy St. Georges, France
Residential Neighborhood Pattern Books (Urban Design Associates)
Pittsburgh, Knoxville, Asheville, Minneapolis, Charlotte and Lake Elsinore, CA
Light Rail Transit Planning (Urban Design Associates)
Pittsburgh and Cleveland

Community Design Projects [selected]

Looking For Braddock's Fields – One month Artist Residency in collaboration with Christine Brill. Community research & dialogue project for Braddock Pennsylvania commissioned by the STUDIO for Creative Inquiry, funded by the Andy Warhol Foundation for the Visual Arts

Activate Pittsburgh – Community organizing project to engage citizens in Pittsburgh in the identification and creation of new spatial and cultural projects of all kinds

Citizen's Plan – An Alternative to the Pennsylvania Turnpike Commission's Plan to Complete the Mon-Fayette Toll Road, Report produced by GroundZero Action Network, Citizens for Pennsylvania's Future & others

Fifth and Forbes – Advocacy for alternatives to Mayor Tom Murphy's 1999 redevelopment plan for downtown Pittsburgh

GroundZero Action Network – A project-based, creative community arts, planning and advocacy network, Core group member and organization co-founder

Exhibitions [selected]

2007	Displacement, Group exhibition curated by John Bowman, chashama Gallery, New York, NY
	Spaces of the Multitude, Solo exhibition, Zoller Gallery, University Park, PA
2006	Two Weeks Notice, Group exhibition, Zoller Gallery, University Park, PA
	Equipoise: Couples Exhibition, Group exhibition curated by Erin O'Neil, Artists Upstairs Gallery, Pittsburgh, PA
2005	Groundworks: Environmental Collaboration in Contemporary Art, Traveling exhibition curated by Grant Kester, Regina Gouger Miller Gallery, Pittsburgh, PA
2003	Throwing the Switch, Group exhibition, Gallery In The Square, Pittsburgh, PA
	Flux #11, Group exhibition, St Francis Garage Roof, Pittsburgh, PA
2000	Flux #2, Group exhibition, 5880 Center Avenue, Pittsburgh, PA
1999	Art of Architects, AIA Gallery, Pittsburgh, PA

Community Service

2003 – current	Member Lawrenceville Stakeholders
2003 – 2005	Stakeholders Representative, Lawrenceville Planning Committee
2000 – 2002	Lawrenceville Corporation, Vision 15201 Committee

Ramesh Krishnamurti, PhD
Professor
Associate Dean for Research, CFA

Teaching Area
Computational Design, Digital Media.

Courses (since 2001)

48.120	Computer Modeling I • 9 units • F01, F02 • Required
48.560	Computer Modeling III • 9 units • F01, F02, F03, F04 • Elective
48.760	Advanced Computer Modeling • 9 units • F01, F02, F03, F04 • Elective (Grad)
48.570	Digital media elective • 9 units • F06 • Elective
48.711	Paradigms and Methods of Research in Architecture • 9 units • F04 • Elective (Req. Grad.)
48.745	Geometrical Modeling • 9 units • S02, S04, S05, S06 • Elective (Sel. Grad.)
48.746	Graphical user interface design • 9 units • F06 • Elective (Sel. Grad.)
48.747	Shape Grammars • 9 units • S01, S02, S03, S04, S05 • Elective (Sel. Grad.)
48.749	Special Topics in CAD: Spatial Constructions • 9 units • F03, S05 • Elective (Sel. Grad.)
48.757	Symmetry, Patterns and Configurations • 9 units • S01 • Elective (Sel. Grad.)
48-770	Computer programming and data structures • 12 units • S06, F06, S07 • Required (Grad.)
48-789	CAD Project IV: Shape and Computation • 12 units • S07 • Required (Grad.)
62.585	Designing Alternative Exhibition Environments for Digital Media • 9 units • S02 • Elective

Educational Background

1980	Ph.D, Systems Design, University of Waterloo
1975	M.A.Sc, Systems Design, University of Waterloo
1974	B.A, Computer Science, University of Canberra
1971	B.E.(Honours),Electrical Engineering, University of Madras

Academic Positions / Teaching Experience / Administrative Experience

Current	Associate Dean for Research, Professor, graduate and undergraduate teaching, PhD advising
2003, 2004	Visiting Professor, NYUST
2000-2002	Director, Graduate Program

Research (since 2002)
- Computer-aided design for Sustainable Building. Autodesk. 2007-09. $600,000
- Predicting the interior layout of buildings. CERL. 2007. $109,172.
- Enhancement of the Characterization of Building Facilities. CERL. 2006. $14,430.
- Curriculum development for a new class in Advanced Visualization of Urban Systems and Infrastructures. Steinbrenner Institute for Environmental Education and Research. 2004, $5,000
- StudioX: IT Enhanced Learning Environments: Supporting Multidisciplinary Collaboration and Vertical Integration. Office of Technological Education, CMU. 2002-03. $37,000
- ITR/IM+AP adsmCon: Early Detection and Management of Defects at Construction Sites Using/Integrated Project Models, Laser Scanners and Embedded Sensor Systems. National Science Foundation. Grant No. CMS-0121549. 2001-06. $2,029,598+REU support (approx $20K/year) for 2002-04.

Scholarship / Publications (since 2005)
books/chapters in books
- Co-Editor with Omer Akin and Khee-Poh Lam, *Generative CAD Systems*, School of Architecture, Carnegie Mellon University, Pittsburgh.

refereed journal articles
- Rudi Stouffs, Ramesh Krishnamurti and Kuhn Park. “Sortal Structures: Supporting Representational Flexibility for Building Domain Processes,” *Computer-aided Civil and Infrastructure Engineering*, vol 22, 98-116, 2006.
- Rudi Stouffs and Ramesh Krishnamurti. “Algorithms for the classification and construction of the boundary of a shapes,” *Journal of Design Research* vol 5, issue 1, 54-95, 2006. (http://www.inderscience.com/)
- Ramesh Krishnamurti, “Explicit Design Spaces?” *Artificial Intelligence for Engineering Design, Analysis and Manufacturing,* 20*,* 95-103, 2006.
- Rudi Stouffs and Ramesh Krishnamurti, The boundary of a shapes and its classification, *Journal of Design Research,* 2004. (http://www.inderscience.com/)

conference papers

- Kui Yue and Ramesh Krishnamurti, "Extracting Building Geometry from Range Images of Construction Sites", *CAADRIA 07*, Nanjing, China, April 18-22, 2007.
- Rudi Stouffs, Ramesh Krishnamurti, Albert ter Haar, "A *sortal* building model supporting interdisciplinary design communication", *Joint International Conference on Computing and Decision Making in Civil and Building Engineering,* Montréal, Canada, June 2006.
- Kui Yue, Daniel Huber, Burcu Akinci, Ramesh Krishnamurti. "The ASDMCon project: The challenge of detecting defects on construction sites," Poster Paper, *Third International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT'06)*, June 2006
- Kuhn Park, Viraj Srivastava, and Ramesh Krishnamurti, "SmartBIM: The Progression of Integrated Building Information Model over the Life-cycle of a Building", *ACADIA2005* [Smart Architecture: Integration of Digital and Building Technologies], Savanah, Georgia, 13-16 Oct 2005
- Kuhn Park, Ramesh Krishnamurti (2005) "*Diary of a Building,"* Poster Exhibition, *CAADfutures2005* [Computer Aided Architecture Design Futures 2005: Learning from the past - A foundation for the future] Vienna, Austria, 20-22 June 2005
- Kuhn Park, Ramesh Krishnamurti (2005) "Digital Diary of a Building," in Anand Bhatt (ed), *CAADRIA'05*, vol 2., pp. 15-25, TVB School of Habitat Studies, New Delhi, India, 28-30 April 2005.
- Yingdan Huang, Ramesh Krishnamurti and Ipek Ozkaya. "Exploring Chinese Traditional Architecture: Interactive realisation of a Traditional Constructive Process," in A Bhatt (ed), *CAADRIA'05*, vol 2., pp 102-108, TVB School of Habitat Studies, New Delhi, April 2005.

research documents

- Brian Gardner and Ramesh Krishnamurti, "Ordering the Aesthetic (A+) in Architecture: Advancing a Theory of Modular Computation", Accepted for Nexus 2008, San Diego, June 2008

review and editing activities

- Reviewer: *DCC — CAADFutures —CAADRIA — SIGGRAPH— GCAD — Building and Environment — Environment and Planning B: Design and Planning*

Public Speaking (since 2001)

2007	The art of the grammarist. Tongji, Shanghai, China, April, Nantai, Tainan, Providence, Taichung, and NCKU, Tainan, Taiwan, June.
2006	Building Characterization Workshop, CERL-University of Illinois, May
2003	Sortal descriptions and spatial constructions. NCTU, Hsin-chu and NTUST, Taipei, Taiwan, June
2003	Sortal descriptions. NCKU, Tainan and NYUST, Douliu, Taiwan, March
2001	Sorts and configurational design. University of Sydney, June

Service (since 2001)

- Editorial Board, *Building and Environment*
- University Research Committee 2007
- College Council 2006-07
- University Computing Advisory Committee 2001–02
- Faculty Review Committee 1997–2001
- School Review Committee
- MS/PhD Committee
- Computing Committee

Professional Memberships / Registration

International Society for Mathematical and Computational Aesthetics

Kristen Kurland
Associate Teaching Professor

Teaching Area
Digital Media, Health and the Built Environment, Practice

Courses
School of Architecture

48.568	AutoCAD-3D Studio MAX • 9 units • F99, F00, F01, F02, F03, F04, F05, F06, F07 • Elective
48.569	GIS-CAFM • 9 units • S99, S00, S01, S02, S03, S04, S05, S06, S07 • Elective
48.781	Knowledge Management in Infrastructure Planning • 12 units • S04, S05, S06, S07 • Reqd. (AEC)

H. John Heinz III School of Public Policy and Management

90.784	GIS • 12 units • F/S 99, F/S 00, F/S01, F/S02, F/S03, F/S04, F/S05, F/S06, F/S07 (S07offered as distance course in Adelaide, Australia), F07 • Elective
90.834	Health GIS • 12 units • F06, S07 • Elective
95-708	GIS Distance • 12 units • Su99, Su00, Su01Su02, Su03, Su04, Su05, Su06,Su07 • Elective
90.892	Infrastructure Management • 12 units • 99, 00, 01, 02, 03, 04, 05, 06, 07 • Required MMM
90.781	Knowledge Mngt. in Infrastructure Planning • 12 units • S99, S00, S01, S02 • Elective
00.000	Systems Synthesis Project, Urban Lab • 18 units • F/S02/03, F/S03/04 • Required
90.740	Systems Synthesis Project (Senior Urban Living) • 12 units • S07 • Required

CIT

12.600	AutoCAD • 3 units • F99, F00, F01,F02, F03, F04, S05, F06, F07 • Elective

Educational Background

1984-1989	Bachelor of Arts Degree/Architectural Studies, University of Pittsburgh

Awards and Special Recognition

2007	CMU Today, “Solving a Weighty Issue”, focus article on research
2007	The Piper, “Location, Location, Location: It May Be Why You’re Overweight”, focus article on research, page 6
2007	Carnegie Mellon University, 8.5 x 11 News, Vol. 17, no. 6, “Research Says US Cities Are Making Children Obese focus article on research
2006	Pittsburgh Tribune Review, “Architects join in the battle of the bulge”, article featuring research
2005	H. John Heinz III School of Public Policy and Management, Martcia Wade Teaching Award Steinbrenner Institute for Environmental Education and Research (SEER), Spotlight on SEER Faculty AIA Columns magazine, “Are American Cities Making Us Fat?”, article featuring my research
2004	Environmental Systems Research Institute (ESRI), Special Achievement in GIS Award
2003, 2000,	ARCHIBUS, Inc., Outstanding Educator Award

Academic Positions

1999-present	Associate Teaching Professor, H. John Heinz III School of Public Policy and Management, School of Architecture, Carnegie Mellon University
1994-1999	Adjunct Assistant Professor, H. John Heinz III School of Public Policy and Management, School of Architecture, Carnegie Mellon University

Work Experience

1992-present	President, Computer Technical Services, Pittsburgh, PA
1989-1992	CAD Instructor, Computer Research, Inc. Coraopolis, PA
1988-1982	CAD Designer, Galt Industries/HOOGOVENS U.S.A., Pittsburgh, PA and Ijmuiden, Netherlands

Published Textbooks

2007	*GISTutorial : Workbook for ArcView 9.2 (Second Edition)*, with Wil Gorr, ESRI Press; *GISTutorial for Health (Second Edition)*, with Wil Gorr, ESRI Press
2006	*GISTutorial for Health (First Edition)*, with Wil Gorr, ESRI Press; *Learning and Using GIS: ArcGIS Edition*, with Wil Gorr, Thomson Learning: Course Technology,
2005	*GISTutorial : Workbook for ArcView 9.1(First Edition)*, with Wil Gorr, ESRI Press;*Learning and Using GIS: ArcExplorer Edition*, with Wil Gorr, Thomson Learning: Course Technology

Selected Publications, Proceedings, and Professional Reports

2007 "Examination of the built environment and prevalence of obesity: Neighborhood characteristics, food purchasing venues, green space and distribution of body mass index" with Dubowitz T, Osypuk T., chapter in S. Babones (ed.), Inequality, Health and Society in preparation

2006 "Evaluating the Relationship of All-Terrain Vehicle (ATV) Motocross Tracks and Pediatric Injury Using Geographic Information Systems," with Sohail R. Shah, MD , Noel Zuckerbraun, MD , Kathy Gismondi , Christine J. McKenna, MSN , Marianne Miller, BS, Barbara Gaines, MD , and Jeffrey S. Upperman, MD., abstract and oral presentation, American Academy of Pediatrics National Conference and Exhibition

2006 "Application of a Geographic Information System (GIS) to Identify Neighborhoods at High Risk for Severe Pediatric Pedestrian Injuries and the Relation to Green Space Density." with, NS Zuckerbraun, T Songer, K Gismondi and BA Gaines, abstract and poster presentation, Pediatric Academic Societies Annual Meeting Abstracts, Pediatric Research, (April 2006)

2006 "Geographic Information Systems (GIS)", Pennsylvania Public Health Association (on-line news issue), (Fall)

2005 "How Physician Executives Can Use Geographic Information Systems (GIS)", American College of Physician Executives, vol. 2, no1., (January)

2004 Architecture and Engineering, Guest Editor, Pittsburgh Engineer Magazine, pages 2-11 (Spring 2004 Edition)

Selected Public and Invited Speaking

2007 "GIS Tutorials: A Lesson in Teaching with GIS", author's panel, Environmental Systems Research Institute, Inc. – 27th International User Conference, San Diego California (June)

2006 Ann Devlin Show, Night Talk, (December)

2006 Pittsburgh Today LIVE, (October)

2006 DUQ Radio, (October)

2006 "Designing a Healthy Community", Highmark Childhood Obesity Regional Strategy Bounce Event, (September)

2006 "GIS Tutorial for Healthcare Organizations", Environmental Systems Research Institute, Inc. - 26th International User Conference, Heath Users Group, San Diego California (August)

2006 "Spatial Teaching with GIS Tutorial", Microcomputers in Education Conference, University of Arizona, Tempe, AZ, (March)

2005 "Geographic Information Systems: Mapping Health, Trauma, and Injury Cases", Trauma Conference, Children's Hospital of Pittsburgh, (November)

2005 "GIS in the Study and Prevention of Childhood Obesity", Grand Rounds, St. Margaret's Hospital, Pittsburgh PA, (September)

2005 "Working with GIS", Legal Services Corporation – TIG Conference, Austin, TX, (January 2005)

2003 "Developing Educational GIS Materials", Environmental Systems Research Institute, Inc. - Third Annual ESRI Education User Conference, San Diego California, (July)

2002 "GIS Distance Education to Non-Traditional Users", Environmental Systems Research Institute, Inc. - Second Annual ESRI Education User Conference, San Diego California, (July)

2001 "GIS Technology To Link Youth and Workforce", Environmental Systems Research Institute, Inc., First Annual ESRI Education User Conference, San Diego California, (June)

Professional Membership

IFMA - International Facilities Management Association; Urban and Regional Information Systems Association; Central Appalachian Chapter, Past President (2000) and Board Member (2001-present); Greater Pittsburgh ARCHIBUS/FM Users Group
ESRI Health Users Group

Khee Poh Lam, PhD, RIBA
Professor

Teaching Area
Design, Technology: Environment

Courses

48.722	Building Performance Modeling • 12 units • F06 • Required
48.721	Building Controls and Diagnostics • 12 units • S07 • Required
48.405	Architecture Design Studio • 18 units • S07 • Required
48.410	Acoustics and Light • 9 units • F06 • Required

Educational Background

1994	Ph.D., Carnegie Mellon University, USA
1982	B. Arch (Hons), Nottingham University, UK
1979	BA (Hons) (Arch & Environmental Design), Nottingham University, UK

Honors and Awards (recent / selected)

2007	National Library Building, Singapore - ASEAN Energy Award 2007
2005	National Library Building, Singapore - Platinum award under the Green Mark Scheme (for Green Buildings) by the Building and Construction Authority, Singapore
2003 -	Marquis: Who's Who in American Education; Who's Who in America; Who's Who in Science and Engineering; Who's Who in American Education; Who's Who in the World.

Academic Positions / Teaching Experience / Administrative Experience

2003 – 2007	Professor of Architecture, Carnegie Mellon University
2003 – 2007	Director of Graduate Program, School of Architecture, Carnegie Mellon University
2000 – 2002	Head, Department of Building, National University of Singapore
1998 – 2000	Dean, Faculty of Architecture, Building and Real Estate, National University of Singapore
1998 – 1999	Director, Graduate School of the Built Environment

Professional Practice (work / projects) / Consulting

- National Library Board, Singapore - International design competition winner and consultant on Total Building Performance Evaluation of the Design of the New NLB Building.
- Pidemco Land Ltd., Singapore - A Total Building Performance Study of THE CAPITAL (POSBank Tower).
- Allegro Investments Pte Ltd, Singapore - Investigation of Moisture and Mildew Problems at a Private Condominium Development.
- Jurong Town Corporation, Singapore - Consultant on the "Design Evaluation of the 'Model A' Prototype Multi-level Factory Complex".
- Urban Redevelopment Authority, Singapore - Consultant on the proposed URA Headquarters Building Project: Specification of the concept of Total Building Performance in the Design & Build tender documentation. Tender evaluation, with specific reference to the implementation of Total Building.

Research

2007	Impact of Shading Control Strategies on Heating and Cooling Loads of a "Typical" Office Building in Different Climatic Contexts in the USA. Somfy SAS, France. $24,000.00
2006	Multiple Environmental Sensing Strategies for Determining Occupancy in Building. Robert Bosch Corporation. $110,000.00
2005	Assessment of Physical and Computational Airflow Analysis and Evaluation Tools for Building Design. Konstrukt (on behalf of Northwest Alliance for Energy Efficiency) $10,100
2004	Energy Modeling Tools Assessment for Early Design Phase. Northwest Alliance for Energy Efficiency. $27,000
2004	Modeling the Performance of Energy Recovery Technology for Packaged, Rooftop HVAC Equipment. United Technologies Research Center. $70,000
2004	Energy Modeling Tools Assessment for Early Design Phase. Northwest Alliance for Energy Efficiency. $25,000
2004	Guidelines and Goals for Green and Healthy Hospital Operations. Children's Hospital of Pittsburgh Foundation, with support from Heinz Foundation. $25,000
2004	Integrated Concurrent Design of High Efficiency Commercial Buildings. United Technologies Research Center. NIST ATP Program. $450,000.00. (3 years)

Scholarship / Publications

2007 Dong, B, K P Lam, Y C Huang and G M Dobbs, A comparative study of the IFC and gbXML informational infrastructure for data exchange in computational design support environments. Tenth International IBPSA Conference, edited by Yi J, Zhu YX, Yang X D and Li X T, pp. 1530-1537. Beijing: IBPSA China, 2007. (3-6 September 2007, Beijing, China).

2007 Chiou, Y S and K P Lam, Sensor-based information modeling for life-cycle commissioning of residential buildings. Tenth International IBPSA Conference, edited by Yi J, Zhu YX, Yang X D and Li X T, pp. 1572-1579. Beijing: IBPSA China, 2007. (3-6 September 2007, Beijing, China).

2007 Huang, Y C, C Q Zhai and K P Lam, Heuristic use of energy simulations in building design. Tenth International IBPSA Conference, edited by Yi J, Zhu YX, Yang X D and Li X T, pp. 1103-1108. Beijing: IBPSA China, 2007. (3-6 September 2007, Beijing, China).

2006 Lam, K P, S H Kim, P Satwiko, J Jennings, J Cole, Assessment of the effects of environmental factors on air flow in and around buildings. 23rd International Conference on Passive and Low Energy Architecture, Geneva, Switzerland, 6-8 September 2006.

2005 Lam, K P, S Lee, G Dobbs, C Q Zhai and Y C Huang, Simulation of the effect of an energy recovery ventilation on indoor thermal condition and system performance. Volume xx, Ninth International IBPSA Conference, edited by I Beausoleil-Morrison and M Bernier, pp. 587-594, 2005. (15-18 August 2005, Ecole Polytechnique de Montreal, Canada).

2005 Lam K P, V Srivastava, Living in the Intelligent Workplace - structuring and managing building opreation information. Paper presented at the ICEBO 2005 International Conference for Enhanced Building Operations, Pittsburgh, PA 15213, October 11-12, 2005

2005 Loftness, V, K P Lam and V Hartkopf, Education and environmental performance-based design: a Carnegie Mellon perspective. Building Research & Information, Vol. 33, No. 2 / March-April 2005, pp. 196 - 203. (Routledge, UK).

2004 Lam, K P, Building performance simulation in the Singapore construction industry IT network. Journal of Architectural and Planning Research, Vol. 21, No. 4, (Winter 2004): 312-320, Locke Science Publishing Co. Inc. (United States).

2004 Lam, K P and Y C Huang. "Lighting Simulation for Architectural Design". Proceedings of the Improving Energy Efficiency in Commercial Building Conference 2004 (IEECB'04), Building Performance Congress, Frankfurt, Germany, 20-22 April 2004.

2004 Lam, K P, N H Wong, A. Mahdavi, K K Chan, Kang, Z, S Gupta. "SEMPER-II: An internet-based multi-domain building performance simulation environment for early design support". Automation in Construction 13 (2004), pp. 651-663.

2003 Wong, N H, K P Lam, H Feriadi. "Computer-based performance simulation for building design and evaluation - the Singapore perspective". Simulation and Gaming, An Interdisciplinary Journal of Theory, Practice and Research, Vol. 34, No. 3, September 2003, pp. 457-477, Sage Publications.

Public Speaking

2006 Keynote Speaker - Symposium on Digital Life Technologies - Building a Safe, Secured and Sound (3S) Living Environment, National Cheng Kung University, Tainan, Taiwan, June 2006.

2003 Keynote Speaker, Healthcare Facilities Planning and Design 2003. Singapore, Dec 2003.

Service

2005 - 2007 University Committee on Tenure Appointments

2006 External Examiner for a PhD thesis, Department of Civil & Environmental Engineering, University College Cork, Ireland.

2004 – 2005 Presidential Appointee to the Carnegie Mellon Faculty Senate

1997 – 2003 Founding member of the Board of Editors, The International Journal of Corporate Real Estate. (International Refereed Journal of the Institute of Corporate Real Estate, NACORE, USA, published by Henry Stewart Publications, UK). Also provided service as reviewer.

2000 – 2003 Member, International Advisory Board of the Journal of Lighting Research and Technology, UK.

2001 External Examiner for a PhD thesis, Faculty of Architecture, Delft University of Technology

2001 Academic Co-Chair of the Advisory Board to the School of Architecture, Carnegie Mellon University

2000 – 2003 External Examiner, Faculty of Architecture, Universiti Teknologi Mara, Shah Alam, Malaysia

Professional Memberships / Registration

Chartered Member, Royal Institute of British Architects, UK

Laura Lee, FAIA
Professor and Head

Teaching Area
Design, Practice

Courses

48.550	Issues of Professional Practice (in Architecture) + Case Studies Program • 9 units • reqd
48.100	Architecture Design Studio - Methods and Transformations in Form • 18 units • required
48.105	Architecture Design Studio - Methods and Transformations in Space • 18 units • required
48.200	Architecture Design Studio - Composition • 18 units • required
48.205	Architecture / Drama Design / Build Studio - Materials and Construction • 18 units • reqd
62.299	College of Fine Arts Interdisciplinary Workshop • 9 units • elective

Educational Background
Master of Architecture with Highest Distinction (1987) University of Michigan
Bachelor of Environmental Design (1984) University of Manitoba

Academic Positions

2004 - Present	Head, Professor
2003-2004	Associate Professor with Tenure; Coordinator: Design Program: First Year
2000 - 2003	Associate Professor; Coordinator: Design Program: Second Year
1997 - 2000	Senior Lecturer; Coordinator: Design Program: Second Year
1994 - 1997	Assistant Professor
1991 - 1994	Adjunct Assistant Professor

Applied Research

2005	The Enkeboll Foundation for the Arts and Architecture Case Studies of Wood-Carved Interiors ($82,000) w/ Kai Gutschow
2003l4	The Enkeboll Foundation for the Arts and Architecture International / Interdisciplinary Program “Room in a Room” ($46,000)
2002	The Enkeboll Foundation for the Arts and Architecture Architectural Internship: Everybody’s Issue ($20,000) Internship Summit 2002 ($10,000)
2002	The Enkeboll Foundation for the Arts and Architecture Danish Design Reconsidered: CMU First Year Furniture Design Studio Project ($10,000)

Honors and Awards

2005	Presidential Citation from the American Institute of Architects
2005	Henry van de Velde Institute Award for Architecture Education, Antwerp, Belgium
2004	Fellowship in the American Institute of Architects
2002	Ryan Award for Meritorious Teaching Carnegie Mellon University
1999	AIAS National Educator Honor Award, American Institute of Architecture Students (AIAS)
1999	Henry Hornbostel Teaching Award from the College of Fine Arts, Carnegie Mellon

Selected Publications

2004 Editor	Case Studies Starter Kit: A Compendium for Practice, Scholarship, and Teaching
2004 Author	Chapter 16: Expanded Internship Opportunities l Professional and Community Service, The Emerging Professionals Companion
2003 Creator	Emerging Professionals Companion: A Resource for Architecture Education Experience
2003 Co-editor	Architecture Internship: Everybody’s Issue *with John Cary, Jr.*
2003 Author	The 2002 Internship Summit in *AIA Journal #2,* AIA Press, Washington DC, 2003

Public Speaking

2005	Shifting: From Education to Experience University of Notre Dame, School of Architecture, South Bend, Indiana
2004	Architecture is the Case: The Mille Reassurance Building 40 hour week-long workshop Beykent University, School of Architecture, Istanbul, TURKEY
2004	Buildings as Foundations of Value in Architectural Education University of Minnesota Study Abroad Program, Oaxaca, MEXICO

2004 The Case Study Starter Kit: Practice, Research, Scholarship, Teaching
AIA / ACSA Teachers' Seminar, Cranbrook Academy of Art, Michigan
2004 Case Studies for Internship, AIA Convention, Chicago, Illinois
2004 Connections in the Academy, AIA Knowledge Summit, Austin, Texas
2004 The Power of One: Best Practices and Case Studies
AIA Grassroots Leadership Conference, Washington, DC
2004 Preparing Emerging Architects for the Future
AIA Grassroots Leadership Conference, Washington, DC
2003 Best Practices and Case Studies, AIA Knowledge Leadership Assembly, Berkeley, CA
2003 Case Studies Opportunities: Education I Training I Practice
AIA Case Studies Work Group Open Meeting, San Francisco, California
2003 Case Studies: Implementing Continuing Education Programs in Practice
AIA Convention, San Diego, California
2003 Best Practices in Design Creativity, Strategy and Partnering
AIA Convention, San Diego, California
2003 Case Studies: Integration in Education, Training and Practice
AIA / ACSA Teachers' Seminar, Cranbrook Academy of Art, Michigan
2003 Best Practices for Internship, AIA / NCARB -- IDP Coordinators' Conference, Louisville, Kentucky
2003 Case Studies in Education, Training, and Practice
ACSA Administrators' Conference: Local/Global Opportunities, Honolulu, Hawaii
2002 The Context of Practice: Leveraging Your Education
School of Architecture, Auburn University, Alabama
2002 Establishing a Structured Link Between Architecture Education and Practice
ACSA Administrators' Conference, San Diego, California
2001 Ethics and Architecture, AIA Build Boston, Boston, Massachusetts
2000 Developing Practice Precedent Studies
AIA Large Firm Roundtable / ACSA Administrators' Conference, San Francisco

Service (selected)

1999 - present NAAB – Team Chair, National Architectural Accrediting Board
1997 - present AIA Pittsburgh – Board of Directors
1995 - present NCARB IDP Educator Coordinator Carnegie Mellon University, School of Architecture
2004 - 2006 AIA National – Appointed Member Board Knowledge Committee
2000 - 2005 AIA National Member Case Studies Work Group
2002 - 2004 Enkeboll Design Advisory Council Enkeboll Foundation for the Arts and Architecture
2002 - 2004 ArchVoices – Board of Directors National ThinkTank on Architecture Internship
1998 - 2004 AIA National Chair (02) Educator Practitioner Net Vice Chair (00) Advisory (99/98)
2004 Co-Chair for "ACSA / AIA Cranbrook Teachers' Academy"
Case Studies in Teaching, Research, Scholarship, Practice
2003 Jury Member Education Honor Awards AIA National
2002 Co-Chair for "2002 Internship Summit" *(with John Cary Jr., Assoc. AIA)*
National Forum on Architectural Internship University of Oklahoma, Norman, Oklahoma
2002 Jury Member AIA Gold Medal / AIA Firm Award Advisory AIA National
2001 Jury Chair Design Awards AIA Chicago / International Masonry Institute
2000 Jury Member AIA Gold Medal / AIA Firm Award Advisory AIA National

Professional Registration/ Memberships

Since 1992 Architect: National Council of Architectural Registration Boards, USA #42,828
Since 1991 Architect: State of Pennsylvania, USA
Since 1987 FAIA (2004); AIA (1991); Associate AIA (1987): The American Institute of Architects

Stephen Lee, AIA, LEED AP
Professor

Teaching Area
Design, Sustainable Design, Technology

Courses

48.200	Architecture, Design and Concept • 18 units • S03 • Required
48.215	Materials and Assembly • 9 units • S01, S02, S03, S04, S05, S06, S07 • Required
48.305	Advanced Construction Studio • 18 units • S01, S02, S04, S05, S06, S07 • Required
48.400	Occupnacy/ Housing Studio (Solar Decathlon) • 18 units • F07 • Required
48.405	Systems Integration Studio (Solar Decathlon) • 18 units • S07 • Required
48.505	Laboratorio Lindbergh Studio (Studio X with Roma Tre) • 18 units • S03 • Required
48.572	Zero Energy House • 9 units • F03, F04, F05 • Elective
48.572	Solar Decathlon Realization • 9 units • F02 • Elective
48.575	Design/ Build (Solar Decathlon 2005) • 9 units • S05 • Elective
48.592	Details, Working Drawings and Prototypes (Solar Decathlon 2005) • 9 units • F04 • Elective
48.752	Zero Energy House • 9 units • F03, F04, F05, F06 • Required (grad) Elective (undergrad)
48.731	Master of Science in Sustainable Design Synthesis I • 12 units • S04, S05, S06, S07 • Required
48.732	Master of Science in Sustainable Design Synthesis II • 24 units • S04, S05, S06, S07 • Required

Educational Background
Master of Architecture in Advanced Building Studies (1977) Carnegie Mellon
Bachelor of Architecture (1975) Carnegie Mellon

Academic Positions

2000 – current	Professor, Carnegie Mellon School of Architecture
1996 – 2000	Associate Professor, Carnegie Mellon School of Architecture
Spring 1993	Visiting Associate Professor, University of Tokyo; Endowed Chair, Urban Environment Systems, Research Center for Advanced Science &Technology (RCAST); Tokyo, Japan
1989 – 96	Full – Time Special Appointment, Carnegie Mellon School of Architecture
1988 – 89	Adjunct Assistant Professor, Carnegie Mellon School of Architecture
1985 – 87	Instructor, Carnegie Mellon School of Architecture

Professional Positions

1981 – current	Co–Founder and Principal Emeritus, TAI + LEE, Architects PC, Pittsburgh, PA
1988 – current	Sr. Consultant, Romualdi, Davidson and Associates, Forensic Engineering, Monroeville, PA

Selected Consulting, Center for Building Performance & Diagnostics

2007 – current	Sustainable design consultant to the Green Building Alliance for the new Pittsburgh Penguins Arena, Pittsburgh, PA.
2006	Session facilitator for the NSF Center for Sustainable Engineering Workshop at Carnegie Mellon, Pittsburgh, PA.
2006	Sustainable design consultant to Partners Healthcare for the new Spaulding Rehabilitation Hospital, Boston, MA.
2006	Co-principal investigator with Konstruct Inc. for the New Buildings Institute study on the incremental cost of implementing the Advanced Buildings Guidelines, Seattle, WA.
2005 – current	Sustainable design consultant to Phipps Conservatory for the Tropical Rainforest and the Living Building Challenge, Pittsburgh, PA.
2005	Sustainable design consultant to Chico's for their new corporate campus development, Ft. Meyers, FL.
2005	Sustainable design consultant to Corning Glass for the renovation of their corporate campus building, Corning, NY.
2003 – 2005	Sustainable design consultant to Alcoa for the new Fjardaal Aluminum Smelter in Reydarfjordur, Iceland.
2003	Sustainable design consultant to Bohlin Cywinski Jackson, Architects for the new College of Engineering and Science at Smith College, Northampton, MA.
2002 – current	Sustainable design consultant to CMU Facilities Management Services for the design of Gates Center, New House, Henderson House, Collaborative Innovation Center and 407 S. Craig.
2003	Sustainable design consultant to Northwest Energy Efficiency Alliance for the design of the High Performance Workplace project in Portland, OR.

Design/ Build Activities

2006 – current Solar Decathlon 2007, "Tripod" Competition in Washington, DC during October 2007. Budget: $400,00. The house will be permanently installed as an exhibit at the Powdermill Nature Reserve in Ligonier, PA after the competition.

2004 – 2005 Solar Decathlon 2005, "Pittsburgh Synergy" Competition in Washington, DC during October 2005. Budget: $400,00. The house was permanently installed on the Carnegie Mellon campus as an environmental classroom and meeting space.

2001 – 2002 Solar Decathlon 2002, Competition in Washington, DC during September – October 2002. Budget: $175,00. The house was disassembled and its components and systems were re-used in the 2005 Solar Decathlon house. Research, Center for Building Performance & Diagnostics

Selected Publications

Dibner, David R. and Lemer, Andrew C., Editors, S.Lee, Member of the Committee on New Technology and Innovation in Building; "The Role of Public Agencies in Fostering New Technology and Innovation in Building"; BRB, Commission on Engineering & Technical Systems, National Research Council; National Academy Press, Washington, D.C. 1992

Kobet, R., S. Lee and C. Mondor; "Guidelines for Creating High Performance Green Buildings"; PA Dept of Environmental Protection; www.gggc.state.pa.us/ greenbldg/ greenpdf/ highperf.htm; 1999.

Lee, Stephen, K P Lam, C Q Zhai and Y C Huang, "Building Simulation Models For Evaluating The Performance Of Energy Recovery Technology In Packaged Rooftop HVAC Equipment" Research report submitted to the United Technologies Research Center, Hartford, CT, 2004.

Lee, Stephen; "Demonstrating Design for Flexibility in the Susquehanna House"; Continuous Customization in Housing – Open Building Tokyo 2000"; Tokyo, Japan; October 2000.

Lee, Stephen; "The Intelligent Workplace: A Building Performance Research Laboratory"; Highly Effective Facilities: Processes and Performance; AIA National Client Conference; Cincinnati, OH; March 1998.

Lee, Stephen; "The PHASE Integrated Construction System"; The 14th International Conference on Passive and Low Energy Architecture (PLEA); Kushiro, Japan; January 1997.

Lee, Stephen and K.J. Tu; "Total Building Performance, A Framework for Evaluating Innovative Components and Systems in the Intelligent Workplace"; APCIB International Symposium; Tel Aviv, Israel; December 1996.

Public Speaking

2006 Workshop on Thermal Comfort for the University of Idaho Integrated Design Lab, Boise ID.

2004 Keynote Speech, "Bridging the Gap – Why Labs Matter", Grand Opening, University of Idaho Integrated Design Lab, Boise ID.

Service

2006 – current Co–Chair, Green Practices Committee

2005 – 2007 University Review Committee

2003 – 2005 College of Fine Arts College Review Committee

2001 – current Green Practices Committee

1998 – 2003 Wats:on? Festival Committee, Chairman (1999 – 2003)

Community Service

2004 – current Industrial and Professional Advisory Council Member, Department of Architectural Engineering, College of Engineering, Pennsylvania State University, State College, PA

2002 – current Carpenters' JATC Annual Apprentice Contest, Planning Committee Member

2002 – current Brick Layers and Allied Craftworkers' Annual Apprentice Contest, Facilitator/ Judge

Professional Registration/ Memberships

1977 – current Pennsylvania #8190 (West Virginia #1878 & New York #17411 are inactive)

1978 – current American Institute of Architects

1995 – 99 Advisory Committee of the Pittsburgh Green Building Alliance

1990 – 91 Committee on New Technology and Innovation in Building, of the Building Research Board, National Research Council

Cindy Limauro
Professor of Drama, Lighting Design

Teaching Experience
Carnegie Mellon University, 1987- present, tenured full professor
Henry van de Velde College of Design Sciences, 2005- present, visiting professor

Lighting Design Experience *denotes world premiere
Pittsburgh Opera 1982-84, 2005-07
The Magic Flute, Tosca, Fidelio, Carmen, Lucia di Lammermoor*

Opera Columbus 1985-86, 2004-07
The Three Sisters, Barber of Seville, Elixer of Love, The Threepenny Opera, La Boheme*

Pittsburgh Irish & Classical Theatre 2004-07
Henry, Heartbreak House, The Shaughraun, Travesties, A Woman of No Importance*

Hall of Dinosaurs, Carnegie Museum of Natural History, 1998
IESNA Award of Merit, International Illumination Design Award

The Chariot of Aurora, Carnegie Museum of Art, 1998
IESNA Award of Merit, International Illumination Design Award

Ragdoll Productions in Rome, Italy 1993-97
Dracula, Il Musical, Nunsense*

Pittsburgh Ballet 1981-82, 2000-07
Daphnis and Chloe, The Nutcracker, Balanchine Fest*

Burt Reynolds Jupiter Theatre 1980
Mister Roberts starring Martin Sheen

Awards
Henry van de Velde Award for Architectural Education from the Higher Institute of Architectural Sciences in Antwerp for outstanding contribution to architectural design education by promoting an interdisciplinary and intercultural approach, January 2007

Carnegie Mellon Faculty Service Award for extraordinary commitment to education, October 2006

USITT Fellow (United States Institute for Theatre Technology), March 2000
Bestowed for life for outstanding contribution to the theatre and the work of the institute

Publications/Design Exhibits
Prague Quadrennial Juried Design Exhibit, June 2007
Lighting design for *The Threepenny Opera*

Featured in "5 Remarkable Women in Theatre," *Stage Directions Magazine*, March 2006

World Stage Design Exhibit, Toronto, March 2005
Lighting design for *A Woman of No Importance*

Lighting design for *The Student Prince* , 8th edition of *Scene Design and Stage Lighting* by W. Oren Parker, R. Craig Wolf and Dick Block, 2002

Feature article profiling professional and academic lighting career published by *Lighting Dimensions* magazine, January 2001

Lighting Design for *Nicholas Nickleby* published in the 3rd edition of *Lighting the Stage* by Will Bellman, 2000

Lighting Design for *The Rape of Lucretia* published in the 6th edition of *Scene Design and Stage Lighting* by W. Oren Parker and R. Craig Wolf

Panels
“Creating Emotional Response through Lighting,” “Shadow Takes a Walk,” “Pushing Back the Darkness,” Antwerp Design Seminars & Lectures, Higher Institute of Architectural Sciences Henry van de Velde, Antwerp, Belgium, January 2005-2007

“The Magic of Light on Fabric,” LDI in Orlando, November 2003

“Theatrical Architectural Lighting Design,” Prague Quadrennial, June 2003

“The E-Factor, Creating Emotional Response through Light,” Lightfair International, New York City, May 2003

“Architecture as Theatre,” Architectural Lighting Master Classes in New York City,
February 2003

Professional Memberships
USA (United Scenic Artists) Member in Lighting Design, Local 829 New York

IALD (International Association of Lighting Designers) Education Membership

OISTAT (International organization of scenographers, technicians and architects)
US Representative on the OISTAT Education Commission

Vivian Loftness, FAIA, LEED AP
University Professor

Teaching Area
Design, Environment

Courses

48-315	Environmental Systems • 9 units • S81-F07 annual • Required
48-300	3rd year Site Studio • 18 units • F06 • Required
48-405	4th year Occupancy or Systems Studio • 18 units • F04, S08 • Required
48-728	Energy, Productivity, Health & the Quality of the Built Environment • 9 units • S01-F07 annual • Elective
48-763	Innovative Product Development: Green Modular Schools • 9 units • F05, S07 • Elective

Educational Background

1975	Massachusetts Institute of Technology, Masters in Architecture 1975. Thesis: "Site Reconnaissance - Natural Forces and the Craft of Building"
1974	Massachusetts Institute of Technology, Bachelor of Science, 1974.

Honors and Awards (recent / selected)

2007	World Business Council for Sustainable Development, Global Assurance Team
2006	'Women in Green', one of 4 educators profiled nationally
2005	National Chair, AIA Committee on the Environment
2004	AIA Honor Award Jury
2003	University Professor, Carnegie Mellon University
2003	FAIA, College of Fellows
2003	USGBC "Sacred Tree" Award, one of 5 nationally
2001	AIAS Educator of the Year Award
2000	AIAS Research Honor Award
1999	Business Week/Architectural Record Award with BCJ and Zoelly Architects
1999	AIA Honor Award for Architecture and Design with BCJ and Zoelly Architects

Academic Positions / Teaching / Administrative Leadership

2003 – current	University Professor
1992 – current	Professor of Architecture
2007 – 2008	Chair, Carnegie Mellon Faculty Senate, Ex-Officio Board of Trustees
2007 – 2010	MIT Corporation Visiting Committee for School of Architecture & Planning
1987 – current	Senior Researcher, Center for Building Performance
1994 – 2004	Head of the School of Architecture

Professional Consulting
Design team member: Adaptable Workplace Lab at the U.S. General Services Administration Headquarters; Laboratory for Cognition at Electricity de France EDF; Intelligent Workplace at Carnegie Mellon University; and emerging Invention Works/ Building as Power Plant.
Technical Consultant: GSA 20.20 innovative workplace projects in 8 cities, Architect of the Capitol Master plan, World Trade Center Freedom Tower, Smith College Science Building, US Department of State Embassy Projects.
Heinz Endowments Sustainability/ Technical Consultant: African American Cultural Center, Point Park College Dance Complex, Pittsburgh Science Center, Pittsburgh Convention Center, PNC Bank.
Juror (most recent): National Tall Buildings Awards 2006 and 2007, Life Cycle Building Challenge 2007, AIA Ohio Design Awards 2007.

Research Principal Investigator (recent / selected)
Over 50 independent research grants in the past 25 years.
• Team member, *Advanced Building Systems Integration Consortium* (ABSIC) "The Office of the Future" A National Science Foundation, IUCRC, a twelve-year research consortium of building industries and federal agencies, 1988-to present, with multiple research publications.
• *Architect of the Capitol/ Entec* – Sustainability Priorities, Performance Specifications, life cycle cost-benefits for ongoing maintenance and upgrades to the Capitol Complex, funded $100,000/year, 2005-to present.
• *BIDS, Building Investment Decision Support Tool*: Cost-Benefit Tool to Promote High Performance Components, Flexible Infrastructures and Systems Integration for Sustainable Commercial Buildings and Productive Organizations, ABSIC funded plus external, approx. $250,000/year with graduate team.
• *GSA20.20 and NEAT* – National Environmental Assessment Tool for field evaluation of high performance buildings, refunded $290,000 2004-2006 with Azizan Aziz and graduate team

•*Heinz Foundation*, Technical and Professional Assistance for the Advancement of Environmental Building Projects in Pittsburgh, funded $50,000/year since 2000.
• *Heinz Planning Grant*, from Urban Lab to Remaking Cities Institute for education, research and advocacy for a sustainable region, funded $50,000 2004-2005, funded $300,000 2006 on with Luis Rico and team.

Scholarship / Publications
• 7 National Academy of Sciences committees, 1982 to present, each with publications
2005-2006 Vice Chair, 'Green Schools: Attributes for Health and Learning' National Academies Press
• *16 refereed journal articles, over 75 research publications, over 50 conference papers*
•*Book*: Hartkopf,V., V. Loftness P. Mill, F. Dubin, G. Ziga, *The Office of the Future: the Japanese Approach to Tomorrow's Workplace* May 1992, John Wiley Publishing, New York, NY.
• *Book Chapters (selected):*
Loftness, V and M. Snyder "Where Windows Become Doors" in *Biophilic Design Theory, Science and Practice*, Kellert et al editors, John Wiley 2007.
Loftness, V. "The Field of Building Climatology," 60 page encyclopedic entry in The Handbook of Climatology, 2nd edition by Dr. John Oliver, Van Nostrand Reinhold 2004 (only entry on architecture)..
Loftness V., et al, "'Smart Buildings', Facility, Supporting Sustainable Organizational and Technological Change though Appropriate Spatial, Environmental and Technical Infrastructures". *Facility Design and Management Handbook: Theory, Practice and Technology Design and Management Handbook*. 50 pages. Ed. Eric Teicholz, McGraw-Hill Inc. Publisher, 2001.
Loftness, V., "Addressing the Big Building Crisis in Sustainability: Communities, Infrastructures, and Indoor Environments," *Dimensions of Sustainability*, Ed: Andrew Scott, E & FN Spon Publishers, New York, 1998.
• T*echnical reviewer*:
National Science Foundation, Lawrence Berkeley National Laboratories, Oakridge National Laboratories, US Green Building Council
• *Editorial board*: Journal of Corporate Real Estate, Journal of Environment and Building

Public Speaking
• 8 Invited Keynotes in 2006, averaging 6-10/year for 10 years.
• 3 Congressional testimonies: 2004, 2003, 1978.
• 30 Federal Strategic Planning teams

Academic Service
Chair, Faculty Senate, University Education Council, University Finance Review Committee, University Professors Committee, Trustees Development Committee, Presidential Review Committee, College Review Committee, School Review Committee, Design Review Committee, Graduate Committees.

Community Service
Heinz Foundation Civic Design Task Force, Riverlife Urban Design Committee, City Planning Advisory Panel, Ellis School academic facilities advisor.

Professional Service: Board Member

2006 – current	World Business Council for Sustainable Development, Global Assurance Team
2003 – current	US Green Building Council national board, (elected)
2006 – current	AIA Communities by Design National Executive Committee
2005 – current	Turner Construction Green Building Advisory Board
2005 – current	USGBC TSAC Technical Scientific Advisory Council, USGBC national research committee
2001 – 2006	AIA COTE National Executive Committee, Chair 2005
2000 – 2006	DOE Federal Energy Management Advisory Council (federal appointment)
2000 – 2002	USGBC National Green Building Conference Educational Chair
2000 – 2001	LEED-CI (Commercial Interiors) Development Board
1999 – 2001	ARTI Air Conditioning Research and Technology Institute Integrated Systems Committee
1997 – 1999	National Academy of Sciences, National Research Counci,l Board on Infrastructure and the Constructed Environment (BICE)

Professional Memberships / Registration
AIA, American Institute of Architects, Registered Architect State of Maryland
Pennsylvania Society of Architects, Pittsburgh Chapter AIA
AIA College of Fellows
ISES/ASES International and American Solar Energy Society
IFMA International Facility Management Assoication
USGBC, United States Green Building Council, institutional membership
Cosmos Club, elected member

Arthur Lubetz, AIA
Adjunct Professor

Teaching Area
Design

Courses

48.200	Architectural Design Studio: Composition • 18 units • Fall • Required
48.205	Architectural Design Studio: Materials • 18 units • Spring • Required

Education

1963	Carnegie Institute of Technology, Bachelor of Architecture

Teaching, Administrative Experience

1988 – current	Carnegie Mellon University School of Architecture
1997 – 2003	Co-coordinator of Events, Wats'on Festival
2003 – 2004	Master's thesis advisor, Carnegie Mellon University School of Art
	Joint Studio Project, with Michael Pestel, Carnegie Mellon University School of Art

Professional Practice

1967 – current	Principal Lubetz Architects
1970 - 1975	Principal, Environmental Design Collaborative

Public Speaking

2000	Sarajevo Winter Cultural Festival, Sarajevo, Bosnia, March
1994	The Carnegie: Architecture, A Public Art
	University of Pittsburgh
	Indiana University of Pennsylvania
	Pittsburgh Center for the Arts
	The Carnegie: Panel on Monolithic Architecture
	Pittsburgh Cultural Trust, Panel on Public Art

Service

2000 – 2004	Kumba Trust, board member
1997 – 2001	Preservation Pittsburgh, president; also board member
1993 – current	The Ecco Foundation, president
1970	Co-Founder, Pittsburgh Architects' Workshop (now The Community Design Center of Pittsburgh), former board member and vice president
	Guest juror at Ohio State University, Indiana University of Pennsylvania, Pittsburgh Center for the Arts, AIA Pittsburgh Open Plan Awards

Honors/Awards
- AIA New York City Design Award for Hartford City Hall (with Ellerbe Beckett)
- Selected for inclusion in the Carnegie Mellon University Architecture Permanent Archives
- Design Award, In the Public Interest from Architectural Record, for Lincoln Towers, Secaucus, New Jersey
- Institutions Design Award for In Cahoots Restaurant, Cincinnati, Ohio
- New York Post "Best Competition Entry that Didn't Win" for Hartford City Hall, Office Tower and Public Library, a joint venture with Ellerbe Beckett
- New York Post, Best New Residential Building in Metropolitan New York City for Lincoln Towers, Secaucus, NJ

Publication
Works described in the following publications:
- A Past Still Alive, by Walter Kidney
- Landmark Architecture: Pittsburgh and Allegheny County by Walter Kidney
- Pittsburgh Characters, Walk-In Sculpture by Abby Mendelson
- Pittsburgh: An Urban Portrait, by Franklin Toker
- Architecture Magazine: feature, Bennett Place, housing for seniors
- Architecture Magazine: feature on 357 North Craig Street, Arthur Lubetz Associates office building
- Architectural Record: feature on Lincoln Towers, Secaucus, NJ
- Metropolitan Home Magazine: Home of the Year
- Progressive Architecture: Top Notch Art Supply Store, Pittsburgh, PA
- Skala (Norwegian Architectural Magazine): article on Hartford City Hall,

- Pittsburgh Press Sunday Magazine: “Intriguing Imprints”

***Exhibition Catalogs*:**
- Architecture/Energy, Exhibition Catalog, University of Pittsburgh
- Architects+Artifacts, Exhibition Catalog, Society for Arts and Crafts
- Object/Context, Exhibition Catalog, University Museum at Indiana University
- On the Waterfront, Exhibition Catalog, Pittsburgh Center for the Arts

Work in Progress:
- Book: Incompletion in Art and Architecture

Invited Exhibitions
- Pittsburgh Platforms, Heinz Architectural Center, Carnegie Museum of Pittsburgh, 2003
- Sarajevo Winter Cultural Festival, 1999
- Installation for Opening of Heinz Architectural Center, Pittsburgh, PA
- Models and Markings, 808 Penn Modern Gallery, Pittsburgh, PA, exhibition of Arthur Lubetz Associates models, jointly with sculptor Diane Samuels
- On the Waterfront, Pittsburgh Center for the Arts, Pittsburgh, PA
- Object/Context, Art Gallery, Indiana University of Pennsylvania
- Architecture/Energy, The Work of Arthur Lubetz Associates, Frick Fine Arts Center Gallery, Pittsburgh, PA
- Form and Fantasy, architectural installation, Pittsburgh Center for the Arts, Pittsburgh, PA

Membership/Registrations
Registered in Pennsylvania, Ohio, West Virginia, New Jersey, New York, N.C.A.R.B

Jennifer Lucchino, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.100	Architecture Design Studio: Form • 12 Units • Fall • Required
48.100	Architecture Design Studio: Space • 12 Units • Space • Required
Pre-College	Architecture Design Studio: Summer
Pre-College	Architecture Practice: Summer

Educational Background

1994	Rice University, Houston, TX, 1990-94, M Arch., Master of Architecture
1992	Tuscan Urban Workshop, Montevarchi, Italy, Summer
1988-1989	University of Paris IV, Paris, France
	Cours de Civilisation Française de la Sorbonne, Niveau Supérieur B.A.
	Diplôme Annuel de Langue et Civilisation Françaises
1984 -1988	Georgetown University, Washington, DC
	B.A., Interdisciplinary Studies, College of Arts and Sciences, Minor: Italian Language
1987	Georgetown University Italian Studies Program, Fiesole, Italy, Spring

Teaching / Administrative Experience

2004 – current	Carnegie Mellon University, Pittsburgh, PA, Adjunct Assistant Professor
2003 – 2004	Adjunct Instructor, Academic Year
2002 – 2003	Studio Instructor / Critic
1997	Carnegie Museums of Pittsburgh, Pittsburgh, PA, Teacher, Architecture for Kids
1986 – 1988	Dumbarton Oaks, Byzantine Library, Washington, DC, Assistant

Professional Practice / Consulting

2003 – current	inter*ARCHITECTURE, Pittsburgh, PA, Co-founder and Principal
2001 – 2004	Damianosgroup, Pittsburgh, PA, Project Architect / Project Manager
1999 – 2000	San Diego Padres Baseball Club, San Diego, CA, Architectural Advisor for Ballpark Planning
1994 – 1999	ASTORINO, Pittsburgh, PA, Graduate Architect

Selected Architectural Projects

2005 – 2007	Epic Metals Warehouse / Offices, Rankin, PA, inter*ARCHITECTURE
2003 – 2007	4915 Penn Avenue, Pittsburgh, PA, inter*ARCHITECTURE
2005	NuRelm, Uniontown, PA, inter*ARCHITECTURE
2001 – 2002	Western Pennsylvania School for Blind Children, Pittsburgh, PA, Damianosgroup
1999 – 2000	A Ballpark for San Diego, San Diego Padres Baseball Club
1998 – 1999	The Mattress Factory, Pittsburgh, PA, Jennifer Lucchino
1998 – 1999	PNC Firstside, Pittsburgh, PA, Astorino
1994 – 1997	Chapel of the Holy Spirit, Domus Santa Marta, Vatican City, Rome, Astorino
1996	UPMC Transplant Center, Palermo, Sicily, Astorino

Scholarship / Publications / Public Speaking / Service (academic)

2007	"West End Pedestrian Bridge by Endres Ware," *Architectural Record,* February
2006	"Behnisch, et al. Win Downtown Pittsburgh Development," *Architectural Record,* August
2006	"Finalists chosen for Pittsburgh Cultural District Master Plan," *Architectural Record,* February
2005	"After Criticism, New Scheme Unveiled for Flight 93 Memorial," *Architectural Record,* December
2005	"Design Unveiled for Shanksville, PA's Flight 93 Memorial," *Architectural Record,* October
2005	"Finalists named for Flight 93 memorial," *Architectural Record,* April
2005	Paper Presentation "A Beginner's Mind," Beginning Design Student, 21st National Conference, San Antonio, Texas, February
2005	"EDGE studio integrates new forms and graphic displays to enhance the historic Carnegie Library in Pittsburgh," *Architectural Record,* February
1998	San Diego Museum of Art Donor Membership Dinner, San Diego Ballpark Panel Discussion with Antoine Predock
1998	Publication in Conference Proceedings *A Tavola: Food, Tradition and Community Amongst Italian Americans*, "Deciphering Italian American Kitchen Design"
1996	Paper Presentation, "Deciphering Italian American Kitchen Design," November

Service (academic)

2007	Member, Awards Committee, School of Architecture
2006	Member, Faculty Search Committee, School of Architecture
1994 – 1996	American Italian Historical Association, 29th Annual Conference, Committee Member, Pittsburgh, PA

Service (community)

2007	New Hazlett Theater, "Women in the Arts: Founders, Pioneers, Instigators," Planning Committee Member
2005	Architectural Charette, a design studio in conjunction with Michael Maltzan: Alternate Ground, Carnegie Museum of Art, Studio Instructor, May
2002	25th Anniversary Celebration Planning Sub-committee, James Turrell: Into the Light, June
1997 – present	Community Design Center, Pittsburgh, PA, Renovation Information Network Consultant
1996 – 1998	The Mattress Factory, Pittsburgh, PA, Gallery Attendant
1993	Habitat for Humanity, Pittsburgh, PA, Construction Volunteer, Summer

Honors and Awards

2005	Pittsburgh Magazine / Pump, Pittsburgh, PA, 40 Under 40 Honoree
1990 – 1994	Rice University, Houston, TX, Honors
1992 – 1993	Rice University, Houston, TX, Scholarship Recipient
1991 – 1993	Rice University, Houston, TX, Fellowship Recipient
1992	Assistant to Director/Fellowship Recipient, Summer, Tuscan Urban Workshop, Montevarchi, Italy
1988 – 1989	University of Paris IV, Paris, France, Kennedy T. Friend Scholarship, PNC Bank, Pittsburgh, PA

Memberships / Registration

2001 – current	American Institute of Architects, Member, National and Local Chapters; Associate AIA, 1997
2000	Commonwealth of Pennsylvania, Architectural License No. RA015227X
1996	American Italian Historical Association

Dutch McDonald, AIA
Adjunct Assistant Professor

Teaching Area
Practice, Design

Courses

48.550	Issues of Practice (in Architecture) • 9 units • F06, F07 • Required
48.200	Architecture, Design & Composition • 18 units • F98, F99, F00, F01 • Required
48.205	Architecture, Design & Materials • 18 Units • S99, S00, S01 • Required

Educational Background

2003 - 2004	Fellow, Institute for Entrepreneurial Excellence; University of Pittsburgh, Pittsburgh, Pennsylvania
1991	Bachelor of Architecture with honors; Carnegie Mellon University, Pittsburgh, Pennsylvania
1998 - 1990	Studies in Architecture, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
1997 - 1999	Studies in Film and Video Production, Pittsburgh Filmmakers, Pittsburgh, Pennsylvania

Honors and Awards

2007	40 under 40, Pittsburgh Urban Magnet Project; selected as one of 40 citizens under the age of 40 making substantial contributions to the betterment of the pittsburgh region.
2005	Grand Prize, Pittsburgh Chapter, AIA; Honor Award, Carnegie Main Library of Pittsburgh
2005	Design Award, InfoComm/Archi-Tech Magazine, Carnegie Main Library of Pittsburgh
2004	Design Award, Pittsburgh Chapter, AIA; Award of Excellence, Gateway Station
2003	Design Award, Pittsburgh Chapter, AIA; Honor Award, 947 Liberty Avenue
2003	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, EDGE studio
2003	Design Award, Master Builders Association, Design Excellence, EDGE studio
2003	Fasttracker, Pittsburgh Business Times
2003	Most Innovative Web Site Design, Entablature.com, www.edge-studio.com
2002	Design Award, Pittsburgh Chapter, AIA; Honor Award, Shady Lane School
2001	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, AT+T Regional Communication Center
2000	Top 40 Cultural Power Brokers, 'One to Watch', Pittsburgh Post Gazette
1999	Design Award, Pittsburgh Chapter, AIA; Honor Award, The Strip Lofts
1999	Design Award, Pittsburgh Chapter, AIA; Certificate of Merit, Wicklines Woods
various	Historic Preservation Awards, City of Pittsburgh, 1998, 2000, 2003, 2005
1991	National Honor Research Award, AIAS, 'Social Housing'
1991	National Research Award, ACSA, 'Social Housing'

Academic Positions / Teaching Experience

1998 – current	Carnegie Mellon University, School of Architecture; Adjunct Associate Professor
1993 - 1997	Our Town, an outreach program for at-risk youth, in association with Carnegie Mellon University, School of Architecture.

Professional Practice

1995 – current	EDGE studio, Pittsburgh, PA; Principal and Vice President Gateway Center Light Rail Station, Port Authority of Allegheny County; Pittsburgh, PA The New Hazlett Theater; Pittsburgh, PA Carnegie Library of Pittsburgh Main Branch; Pittsburgh, PA AT&T Broadband; Regional Communications Center, Washington, PA 947 Liberty Avenue, modern urban infill; Pittsburgh, PA Pittsburgh History & Landmarks Foundation; Fifth and Forbes Planning, "Plan 'B'" Shady Lane School; Early Education School Society for Contemporary Craft; Gallery and Educational Center The Strip Lofts; Pittsburgh, PA
1991 - 1994	Tai + Lee Architects, Pittsburgh, PA; Intern Architect, Designer
1989 - 1990	Atellier des Tonelles, Lausanne, Switzerland; Intern Architect
1986 - 1989	Burt Hill, Bulter, PA; Summer Intern

Publications

May 2007	Pittsburgh City Paper, Charles Rosenblum, 'Lobby Heroes'
June 2005	Metropolitan Home, Vol. 37, No. 5, 'Light Industry: The Wilkes' Loft'
February 2005	Architectural Record, Vol. 193, No. 2, 'The Carnegie Library of Pittsburgh'

March 2004 Dwell, Vol. 4, No. 4, 'Steel Life'
May 2002 Pittsburgh Post-Gazette, Patricia Lowry, 'Places: Architect Trades in Transparency'
March 2000 Pittsburgh Magazine, 'A Designer's Dozen'

Creative Productions, Exhibitions

2007 '"The New Hazlett Theater," EDGE studio gallery, Pittsburgh, PA and Florida Atlantic University, Fort Lauderdale, FL.
2004 "Time Capsules"' The Andy Warhol Museum, Pittsburgh, PA
2003 "Pittsburgh Platforms," Heinz Architectural Center, Pittsburgh, PA
2002 "Stream," The Mattress Factory, Pittsburgh, PA
1999 "In The Doghouse," Heinz Architectural Center, Pittsburgh, PA
1994 "Pittsburgh Architects," Heinz Architectural Center, Pittsburgh, PA

Public Speaking

2007 Florida Atlantic University, Lecture Series
1999 Andy Warhol Museum, Symposium: "When you wish upon a star: Themed Worlds"

Service

1996 – Current Friendship Preservation group, Board Member; Past President, 1998 – 2002
2000 – Current PCTV21 - Pittsburgh Community Television, Chair, Relocation Committee

Professional Memberships / Registration

American Institute of Architects
Licensed Architect, State of Pennsylvania
Licensed Architect, State of New York

Gerry Mattern, PE
Adjunct Professor

Teaching Area
Technology

Courses

48.412	Environment III: Mechanical Systems • 9 Units • F99-F04 • Required

Educational Background

1958	BSEE, Rose Polytechnic Institute

Honors and Awards

2006	Filed for Patent for Geothermal System
1992- 2007	Who's Who in Science and Engineering 1st Edition
1979	Air Condition and Refrigeration Magazine, Winner of 1st Outstanding Project Award for Excellence in Mechanical Systems for the Sheraton Inn, Greensburg, PA
1965	Architectural Record Home of the Year (Engineering)
1961	Westinghouse Power Up Award

Academic Positions

1982 – current	Carnegie Mellon University, Dept. of Architecture, Mechanical Equipment
1982 – current	American Inst. of Architects, Professional Review Class, Mech/Elect.
1965 – 1968	Penn State University, P.E. Review Class

Professional Practice

1963 – current	Consulting Engineer, Self-Employed
1962 – 1963	Pittsburgh Reflector Co., Manager, Electric Heating
1958 – 1962	West Penn Power Company Various Positions

Service
- YMCA of Ligonier, Past President, Vice President, Chairman, Financial Advosory Committee
- Ligonier Valley Chamber of Commerce, past President, State Director
- Ligonier Twsp. Planning Commission, past Member
- Awarded Life Membership Ligonier Boosters Club
- Awarded Life Membership Ligonier Fire Company
- Member and Arbitrator, American Arbitration Association
- Past member Boy Scout Council and Cubmaster Ligonier
- Past Trustee and Board Member, Heritage U.M. Church

Registration
Pennsylvania 8706 E, West Virginia 5172

Mick McNutt, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.400	Occupancy Studio • 18 units • Fall • Required
48.405	Systems Integration Studio • 18 units • Spring • Required

Education Background

2004	Master of Architecture, Syracuse University, Syracuse, New York
2002	Architecture Program, Syracuse University Florence, Florence, Italy
1997-1999	Architecture Program, University of Arkansas, Fayetteville, Arkansas
1995	BA, English Writing & Film Studies, University of Pittsburgh, Pittsburgh, Pennsylvania,

Honors and Awards

2006	American Institute of Architects, Design Award, Cathedral of Learning/Oakland Civic Center Conservation Study
2004	American Institute of Architects, Design Award, Gateway Station
2004	Syracuse University, Graduate Assistant Prize
2002	Syracuse University Florence Program, Coluccio Salutati Prize
1999	University of Arkansas, John G. William Traveling Fellowship

Academic Positions

Current	Adjunct Assistant Professor, Carnegie Mellon University, Fourth Year Architecture Design Studio, spring 2007, academic year 2007–2008
2003 – 2004	Syracuse University, First Year Architecture Design Teaching Assistant
2001 – 2003	Syracuse University, Architecture History Teaching Assistant

Professional Practice

2006 – Present	EDGE studio, Pittsburgh, Pennsylvania University of Pittsburgh, School of Engineering, Benedum Hall Renovation and Addition
2004 – 2006	Pfaffmann + Associates, Pittsburgh, Pennsylvania, Architectural Designer, 2004-2006 Historical Society of Western Pennsylvania, Meadowcroft Rockshelter, Avella, Pennsylvania Benedum Trees Building, Life Safety Systems Upgrade, Pittsburgh, Pennsylvania
2002	Astorino, Pittsburgh, Pennsylvania, Architectural Intern, Summer 2002 University of Pittsburgh Medical Center, Children's Hospital of Western Pennsylvania, Pittsburgh, PA
1999 – 2001	VEBH Architects, Pittsburgh, Pennsylvania, Architectural Intern, 1999-2001

Research & Publications

2004	"Life of the City: Mapping a Steelworker's Experience of Pittsburgh, 1908-1998." ACSA Northeast Regional Meeting, Syracuse, New York, Conference Presentation & Paper

Exhibitions

2007	EDGE gallery, Pittsburgh, Pennsylvania, "Convergent Acts" (New Hazlett Theater)
2002	Octagon, Washington DC "Great Spaces, Great Faces: Section and Elevation Models of Historic Architecture" (Sforza Chapel by Michelangelo)

Affiliations
Registered Architect, Commonwealth of Pennsylvania 2007
American Institute of Architects
NCARB Certified

Chris Minnerly, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.100	1st year Architecture Studio• 12 units • Fall • Required
48.105	1st year Architecture Studio• 12 units • Spring• Required
48.200	2nd year Architecture Studio• 18 units • Fall • Required
48.305	3rd year Architecture Studio • 12 units • Spring • Required

Educational Background

1985	Bachelor of Architecture, Cornell University
Expected 2008	Masters in Architecture, Cornell University

Academic Positions / Teaching Experience / Administrative Experience

2006 – present	Adjunct Assistant Professor, Carnegie Mellon University, School of Architecture
1991 – 1993	Graduate Teaching Assistant, Cornell University, School of Architecture.

Professional Practice (work / projects) / Consulting

2002 – present	Principal, The Design Alliance Architects; Pittsburgh
1997-2002	Principal, Minnerly Architecture; Pittsburgh
1997	Architect, Hoffman O'brien Look, Traube & Chang; Ithaca
1992-1994	Architect, The Design Alliance Architects; Pittsburgh
1991-1990	Architect, Koetter, Kim and Associates; London
1987-1990	Architect, Cooper Robertson & Partners; New York
1985-1987	Intern Architect; Samuel J. De Santo & Associates

Professional Memberships / Registration

Since 1995	Architect: Pennsylvania
Since 1996	NCARB Certified
Since 1991	AIA Member (American Institute of Architects)

Mark Minnerly, RA
Adjunct Assistant Professor

Teaching Area
Real Estate

Courses

48.452	Real Estate Design & Development

Educational Background

1988	Bachelor of Architecture, Cornell University
1998	Executive Education Program / Community Builder Fellowship, Harvard University

Academic Positions / Teaching Experience / Administrative Experience

2007 – present	Adjunct Assistant Professor, Carnegie Mellon University, School of Architecture

Professional Practice (work / projects) / Consulting

2000 – present	Real Estate Developer / Project Partner, The Mosites Company, Inc.
1998 – 2000	Community Builder Fellowship, US Department of Housing & Urban Development
1992 – 1998	Program Officer, Pittsburgh Partnership for Neighborhood Development
1990 – 1992	Executive Director, Friendship Development Associates
1988 – 1990	Architect, The Design Alliance

Professional Registrations
Licensed Architect in the State of Pennsylvania
Licensed to sell Real Estate in the State of Pennsylvania

Professional Service
Member, Bloomfield Garfield Corporation
Co-chair, Cornell Summer College Scholarship
Executive Committee Member, Cornell Club of Pittsburgh
Member, Friendship Preservation Group
Member, Pennsylvania Society of Architects

Christine Mondor, AIA, LEED AP
Adjunct Assistant Professor

Teaching Area
Design, History · Theory

Courses

48.095	Architecture for Non-Majors • 9 units • S03 • Elective
48.100	Architecture Design Studio: Form • 12 units • F99, F00 • Required
48.105	Architecture Design Studio: Space • 12 units • S99, S01, S02, S03 • Required
48.205	Architecture Design Studio: Materials • 18 units • S04 • Required
48.300	Architecture Design Studio: Site • 18 units • F01, F02, F03, F04, F05, F06, F07 • Required
48.312	Site Engineering and Foundations • 9 units • F01, F02, F03, F04, F05, F06, F07 • Required
48.312	Human Factors in Architecture • 9 units • S06, S07
48.448	History of Sustainable Architecture • 9 units • F04 • Elective
Precollege	Architecture • Summer 99

Educational Background

1993	Bachelor of Architecture, Carnegie Mellon University, Pittsburgh.

Honors and Awards

2001	Open Plan Design Award, Airport Information Kiosks, Pittsburgh Chapter AIA Design Awards, Fall
2001	Green Design Certificate of Merit, Villa Maria Comfort Station, Pittsburgh Chapter AIA Design Awards, Fall
2001	Three Rivers Environmental Award, Greater Pittsburgh Community Food Bank, Spring
2000	Best Built Project, Villa Maria Comfort Station, Young Architects Exhibit, Pittsburgh Chapter AIA, Summer
2000	LEED Silver Rating, Greater Pittsburgh Community Food Bank, Spring
1999	AIA Top Ten Environmental Buildings, The CCI Center, Fall
1994	The American Institute of Architects, Open Plan Award / AIA Pittsburgh / Piers Project

Academic Positions / Teaching Experience / Administrative Experience

2007 – current	Adjunct Assistant Professor. Carnegie Mellon University.
2002 – current	Special Appointment Faculty. Carnegie Mellon University.
2003 – 2007	Adjunct Professor, Thesis Advisor. Chatham College, Master of Landscape Architecture Program.
1999 – current	Instructor. Phipps Conservatory and Garden Center.
1999 – 2002	Adjunct Assistant Professor. Carnegie Mellon University

Professional Practice (work / projects) / Consulting

2004-current	Co-founder and Principal, evolve environment::architecture. Practice dedicated to advancing our environments through design, consulting and education
2007	Veterinary Hospital. Veterinary facility incorporating state of the art green construction and operational practices.
2005	Gates Center for Computer Science. Consulting on site and other LEED issues.
2005	Outdoor classroom, Shady Side Academy. Outdoor learning space that serves as new entry to school and integrates stormwater best practices. LEED Gold pending.
2004	MAYAspace. Interior design for creative consulting firm. LEED Certified.
2003	ALCOA Iceland Smelting Plant. Consultant for sustainable site design for new smeltering facility.
2002	Changing Seasons Stormwater Gardens. Commercial property incorporating stormwater retention and infiltration strategies.
2001	Powdermill Nature Reserve. Feasibility study for an addition to the Florence Lockhard Nimick Nature Center with an emphasis on integration of green building and site concepts.
2001	Airport Information Kiosks. Two conceptual kiosks for the Pittsburgh International Airport based on the integration of information technology and the human body.
1999	Greater Pittsburgh Community Food Bank. One of first 10 LEED rated buildings in the nation.
1998	Villa Maria Comfort Station. Design for a remote outdoor comfort facility using composting toilets and straw bale/timber construction.

Scholarship / Publications (recent / selected)

2005	Luce Foundation Grant: "Environmental Education in the Early Undergraduate Curriculum"
2002	"Schools Reuse: Sustainable Reuse for Abandoned Schools." Heinz Endowments. $25,000.
1999	"High Performance Building Guidelines." Coauthored guideline for PA Department of Environmental Protection. Grant total unknown.
1998	"Soffer Building Six: Sustainable Alternatives for Speculative Office Buildings." Funding source unknown.

Public Speaking

2007	Governor's Going Growth Partnership Conference. Invited speaker. September.
2005	Design Educators Conference, Copenhagen. Sustainability and design education. Invited speaker.
2004	American Association of Botanical Gardens. Invited speaker.
2002	Mon-Yough Water Trail Design Charrette. Carnegie Mellon Studio for Creative Inquiry. September.
2001	Point State Park Design Charrette. Riverlife Task Force. August.
2001	Green Materials. PA Department of General Services. April.
2001	Green Buildings and LEED Workshop. November.
2000	Energy 2000 Conference. U.S. Department of Energy. August.
1999	Pittsburgh LEED Workshop. Green Building Alliance. May.
1999	Environmental Possibilities Workshop. Business for Social Responsibility. April.
1999	Understanding Green Workshop. Sisters of the Humility of Mary. June.

Service

2007	Friendship Development Association. Project Committee.
2006-current	Community Design Center of Pittsburgh. Board Member.
2004-current	CMU Green Practices Committee
2002	Green Building Alliance. Education Committee Co-chair
1994 – 1999	American Institute of Architects, Committee on the Environment (COTE). Pittsburgh
1999 – 2002	Green Building Alliance. Advisory board member.
1994 – 1999	Green Building Alliance. Board member
1997 – 2000	Pennsylvania Resources Council. Technical Advisory Board Member.
1993 – 2001	Three Rivers Association for Sustainable Energy (TRASE). President, board member.

Professional Memberships / Registration

US Green Building Council. Member
American Institute of Architects. Member.
PA registration Number RA015731

Jason Morris, AIA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.100	Methods & Transformations in Form • 12 units • Fall • Required
48.105	Methods & Transformations in Space • 12 units • Spring • Required

Education Background

2004	Master of Architecture, Illinois Institute of Technology, Chicago, IL
1996	Bachelor of Architecture, University of Tennessee, Knoxville, TN

Academic Positions

2004 - current	Adjunct Assistant Professor, Carnegie Mellon University

Professional Practice

2004 – present	SO-AD, Pittsburgh, PA
	Flux 15, Pittsburgh, PA
	Skyscraper Competition, Pittsburgh, PA
	El Museo Cultural de Santa Fe Competition, Santa Fe, NM
	"Constraints" Installation, Pittsburgh, PA
	New Hazlett Theater Invited Competition [Finalist], Pittsburgh, PA
	"End on End" Installation, Pittsburgh, PA
2005 - 2006	DGGP Architecture. Pittsburgh, PA
	The Fred M. Rogers Center at St. Vincent College, Latrobe, PA
	Berlin Village Student Housing at Westminster College, New Wilmington, PA
	South 10th Street Business Park, Pittsburgh, PA
2004	Valerio Dewalt Train, Chicago, IL
	The Kresge Foundation, Troy, MI
1998-2003	DeStefano and Partners
	Roosevelt Square, Chicago, IL
	Chicago Housing Authority Senior Housing, Chicago, IL
	Walter Payton College Prep High School, Chicago, IL

Service
Volunteer, Community Design Center of Pittsburgh, RenPlan Program
Habitat for Humanity, Knoxville, TN

Registration
Registered Architect, State of Pennsylvania, 2004
Registered Architect, State of Illinois, 2002
NCARB Certificate

Irving J. Oppenheim, PhD, PE
Professor (joint with Civil and Environmental Engineering)

Teaching Area
Technology

Courses

48.210	Statics • 9 Units • F99, F00, F05, F06, F07 • Required
48.217	Structures • 9 Units • S99, S00, S01, S02, S03, S04, S05, S06, S07 • Required
48.310	Structures II • 9 Units • F99, F00, F01, F02, F03, F04 • Required
12.100	Introduction to CEE • F00, S00, F01, F02, F03, F04, F05 • Required
12.235	Statics • S03, S04, S07, F07 • Required
12.400	CEE Senior Design • F99 • Required
12.635	Structural Analysis • S99 • Elective
12.767	Waves in Solids • S06 • Elective
39.606	Product Design • S06 • Elective

Educational Background

1972	Cambridge University, Ph.D.
1970	Lehigh University, M.S.
1968	The Cooper Union, B.E.

Academic and Administrative Positions

1972 – current	Carnegie Mellon University, Department of Architecture (joint with Department of Civil and Environmental Engineering)
1988 – 1989	Carnegie Mellon University, Department of Architecture, Acting Head

Research
Oppenheim currently develops MEMS devices (micro-electromechanical systems) as sensors for structural health monitoring. In other recent research activities he studied tensegrity structures, truss optimization within computer graphics, and the dynamics of unreinforced masonry structures. In past robotics research activities he studied rule-based programming for precast concrete building construction, spatial grammars to process constraints within coal mining operations, and the control of dynamically stable motion. In earthquake engineering research he studied seismic risk analysis of lifelines, and the dynamic response of precast concrete buildings. His active projects in 2006-2007 were funded by The National Science Foundation ($359,000; 48 month duration), Bombardier Corporation ($47,000; 12 month duration), and the Pennsylvania Infrastructure Technology Alliance ($29,000; 12 month duration).

Scholarship
Oppenheim is the author of 30 journal articles, more than 90 conference papers receiving critical review, and more than 50 other technical papers. Selected recent publications are listed below:

2007	Greve, D. W., Sohn, H., Yue, C. P., and Oppenheim, I. J., "An inductively-coupled Lamb wave transducer," *IEEE Sensors Journal*, Vol. 7 (2), 295-301, February 2007. Greve, D. W., Oppenheim, I. J., Wu, W., and Zheng, P., "Fatigue Crack Detection in a Plate Girder using Lamb Waves," *SPIE Smart Structures Conf.*, San Diego, March 2007. Greve, D. W., Oppenheim, I. J., and Zheng, P., "Inductive coupling for wireless Lamb wave and longitudinal wave transducers," *6th International Workshop on Structural Health Monitoring*, Stanford, September 2007.
2006	Ozevin, D., Greve, D. W., Oppenheim, I. J., and Pessiki. S. P., "Resonant capacitive MEMS acoustic emission transducers," *Smart Mater. Struct.* 15 (2006) 1863-1871. Greve, D. W., Oppenheim, I. J., and Tyson, N. L., "Lamb Wave Behavior in Bridge Girder Geometries," *SPIE Smart Structures Conf.*, San Diego, February 2006. Greve, D.W., Oppenheim, I.J., Sohn, H., Yue, C.P., and Boscha, A.K., "Active sensing with an inductively coupled (wireless) Lamb wave transducer," *Fourth World Conf. on Structural Control and Monitoring*, San Diego, July 2006.
2005	Nieuwenhuis, J., Neumann, J., Greve, D., and Oppenheim, I., "Generation and detection of guided waves using PZT wafer Transducers," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control. Vol. 52 (11), pp. 2103-2111, 2005. Ozevin, D., Greve, D. W., Oppenheim, I. J., and Pessiki, S. P., "Design, Characterization and Experimental Use of an Optimized MEMS Acoustic Emission Device," *SPIE Smart Structures Conf.*, San Diego, March 2005.
2004	Neumann, J. J., Greve, D. W., and Oppenheim, I. J., Comparison of Piezoresistive and Capacitive Ultrasonic Transducers, *SPIE Smart Structures Conf.*, San Diego, March 2004.

2003 Oppenheim, I. J., and W. O. Williams, “Vibrations and Design of Tensegrity Structures,” *Revue Francaise de Genie Civil*, 377-389, July 2003.
Oppenheim, I., Jain, A., and Greve, D., “MEMS ultrasonic transducers for the testing of solids,” *IEEE Trans. Ultrasonics, Ferroelectrics, and Frequency Control*, pp.305-311, March 2003.
Oppenheim, I., Jain, A., and Greve, D., “Electrical characterization of coupled and uncoupled MEMS ultrasonic transducers,” *IEEE Trans. Ultrasonics, Ferroelectrics, and Frequency Control*, pp.297-304, March 2003.
Ozevin, D., Pessiki, S. P., Jain, A., Greve, D. W., and Oppenheim, I. J., “Development of a MEMS Device for Acoustic Emission Testing,” *SPIE Smart Structures Conf.,* San Diego, March 2003.
Jain, A., Greve, D. W., and Oppenheim, I. J., “Experiments in Ultrasonic Flaw Detection using a MEMS Transducer,” *SPIE Smart Structures Conf.*, San Diego, March 2003.
Oppenheim, I. J., Jain, A., and Greve, D. W., “Design and Testing of a MEMS Ultrasonic Transducer for Flaw Detection,” *Transportation Research Board Annual Mtg.*, Washington, D.C., January 2003.

2002 Greve, D. W., Jain, A., and Oppenheim, I. J., “MEMS Phased Array Detection in Contact with Solids,” *IEEE Ultrasonics Conf.*, Munich, September 2002.
Jain, A., Greve, D. W., and Oppenheim, I. J., “A MEMS Transducer for Ultrasonic Flaw Detection,” *International Symposium on Automation and Robotics in Construction ISARC 2002,* Washington, D.C., September 2002.
Smith, J., Hodgins, J., Oppenheim, I., and Witkin, A., “Modeling Truss Structures using Optimization,” SIGGRAPH 2002, San Antonio, July 2002.

2001 Oppenheim, I. J., and W. O. Williams, “Vibration of an Elastic Tensegrity Structure,” *European Journal of Mechanics A/ Solids*, Vol. 20, 1023-1031, 2001.
Oppenheim, I. J., and W. O. Williams, “Damping and vibration control in a three-bar tensegrity structure,” *Journal of Aerospace Engineering*, Vol. 14(3), 85-91, 2001.

2000 Oppenheim, I. J., and W. O. Williams, “Geometric Effects in an Elastic Tensegrity Structure,” *Journal of Elasticity*, Vol. 59, 51-65, 2000.

1998 Oppenheim, I. J., and W. O. Williams, “Vibration Effects in a Tensegrity Prism,” *Proc. 12th Conf. Engineering Mechanics*, San Diego, May 1998.

1996 Oppenheim, I. J., “Earthquake analysis of masonry structures,” *Proc. 11th World Conference on Earthquake Engineering*, Acapulco, 1996.

1995 Stouffs, R., R. Krishnamurti, and I. J. Oppenheim, "A Behavioral Language for Motion Planning in Building Construction," *Automation in Construction*, Vol. 3(4), 1995.

1994 Stouffs, R., R. Krishnamurti, S. Lee, and I. Oppenheim, "Construction Process Simulation with Rule-Based Robot Path Planning," *Automation in Construction*, Vol. 3(2), 1994.

1993 Kub, E. G., L. G. Cartwright, and I. J. Oppenheim, "Cracking in Exterior Insulation and Finish Systems," *Journal of Performance of Constructed Facilities*, Vol. 7(1), Feburary 1993.

Current Academic, Professional, and Public Service

Editorial committee, *Journal of Aerospace Engineering*
Campus advisor, Rhodes, Marshall, and Gates Cambridge scholarships

Professional Registration and Memberships

Professional Engineer PE-024903-E, Pennsylvania.
American Society of Civil Engineers
American Society of Mechanical Engineers
Earthquake Engineering Research Institute

Matthew Plecity, RLA
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.300	Architecture Design Studio: Site • 18 units • F06, F07 • Required
48.105	Architecture Design Studio: Methods and Transformations in Space • 12 units • S07 • Required

Educational Background

2004	Master of Architecture, Virginia Tech
1998	Bachelor of Landscape Architecture, Virginia Tech

Honors and Awards

2004	Blue Ridge Mason's Association Competition Finalist
2004	Henry Adams Medal Winner Virginia Tech
1998	ASLA Honor Award Winner Virginia Tech
1995	Harold Hill Memorial Competition Finalist

Academic Positions

2006-current	Adjunct Assistant Professor of Architecture, Carnegie Mellon University
2003-2004	Teaching Fellow, Virginia Tech

Administrative Experience

2006-2007	Awards Committee Member, Carnegie Mellon University

Professional Practice

2004-current	Bohlin Cywinski Jackson Architects, Pittsburgh, PA
	The Scripps Research Institute, Jupiter FL
	University of California Riverside MS & Engineering Building, Riverside, CA
	Greater Huntington Parks and Recreation – Ritter Park, Rotary Park, Huntington, WV
1999-2001	Olin Partnership, Philadelphia, PA
	Beringer Vineyards, St. Helena, CA
	MIT Stata Center, Cambridge, MA
	University of Pennsylvania Master Plan, Philadelphia, PA
1998-1999	Slater Associates Landscape Architecture, Columbia, MD
	Mt. Sinai Cancer Treatment Center Garden , Baltimore, MD
	Micros Corporate Headquarters, Columbia, MD

Scholarship / Publications

2004-current	Vectorworks on-line Gallery – Mt. Sinai Cancer Treatment Center Rendering
2004-2005	*Landscape Architecture Magazine* – Vectorworks Advertisement – Mt. Sinai Cancer Treatment Center Rendering

Service
Volunteer, Community Design Assistance Center of Virginia Tech

Registration
Registered Landscape Architect, State of Delaware 2004

Robert Reid, PhD, PE
Adjunct Assistant Professor

Teaching Area
Technology

Courses
48.210 ▪ Statics • 9 Units • Fall • Required

Education

2002	PhD Civil Engineering, Carnegie Mellon University, Pittsburgh, PA
1985	M.S. Civil Engineering, Illinois Institute of Technology, Chicago, IL
1983	B.S. Civil Engineering, University of Pittsburgh, Pittsburgh, PA

Academic Positions

2001 – current	Carnegie Mellon University School of Architecture, Pittsburgh PA Adjunct Assistant Professor
2003 – 2004	Lafayette College, School of Engineering, Easton PA Visiting Assistant Professor PA

Professional Practice

1989 – current	RHR Consulting Engineers, Inc., Wexford, PA, President
1985 – 1990	Michael Baker Corporation, Beaver, PA, Software Development Engineer, Structural Engineer
1985	Sargent & Lundy Engineers, Chicago, IL July 1983 - December 1985, Structural Engineer.

Professional Registration
Professional Engineer, Pennsylvania
Member, American Society of Civil Engineers

Luis Rico-Gutierrez
Associate Dean, College of Fine Arts
Director, Remaking Cities Institute

Teaching Area
Design

Courses

48.500	Urban Design • 18 Units • Fall • Required
48.505	Design in the Urban Context • 18 Units • Spring • Required
48 453	Theories in Urban Design • 9 Units • Spring • Required

Summer Programs:

- Carnegie Mellon University: Summer in Barcelona, Spain. Coordinator and Studio Instructor [1999 and 2005]
- ITESM (Mexico): Theory and Practice in the Modern City. Class and Studio in Barcelona, Spain [2000]
- Coordinator of the program and Instructor. The program was simultaneously broadcasted using satellite technology to 12 cities in Mexico, Chile, and Costa Rica

Educational Background

1997 – current	Carnegie Mellon University. Ph.D (In progress) Research: Computer supported collaborative design
1996 – 1997	Carnegie Mellon University. Master of Science in Computational Design
1987 – 1988	"Rafael Leoz" Foundation (Madrid) Graduate degree. Modular design and isotropic space arrangement
1982 – 1986	ITESM (Queretaro, Mexico) Bachelor degree in Architecture. Professionally accredited both in Mexico and in Spain

Academic Positions / Teaching Experience / Administrative Experience

2001 – current	Associate Dean, College of Fine Arts
2007 – current	Director, Remaking Cities Institute
2001 – 2004	Associate Head, School of Architecture
2001 – 2007	Chairman, Steering Committee for the Studio for the Creative Inquiry
1996 – current	Special Faculty Appointment (Assistant Professor) School of Architecture.
2006 – current	Western Pennsylvania Diversity Initiative – Board Member

Honors and Awards

2005	First Prize: 2005 J.P. Morgan-Chase Community Development Competition –*"Centre Food: Bringing a Non-Profit Food Store to Pittsburgh's Hill District."* Faculty Advisor
2003	Institute for International Education Andrew Heiskell Award for Technology Enhanced Learning in International Education
1997	"Borrego Dorado" ITESM, Mexico. Nationwide award for Educational Innovation

Research

- Heinz Foundation. Grant. "Technology, Community and Development. Supporting the creation of a redevelopment framework for the LTV site in Hazelwood." ($300,000.-)
- Heinz foundation. Planning Grant "Creating the Remaking Cities Institute: education, research and communication/decision-making tools that ensure action for a sustainable region" ($50,000.-)
- Steinbrener Institute. "Advanced Visualization of Urban Systems and Infrastructures" ($5,000.-)

Scholarship / Publications

2000	Espinosa, A., Cadiz, J., Rico-Gutierrez, L., Kraut, R., Scherlis, W., and Lautenbacher, G. [2000] Coming to the Wrong Decision Quickly: Why Awareness Tools Must be Matched with Appropriate Tasks. Proceedings of the CHI 2000 Conference, ACM Press.

Service
President's Diversity Council. Chairman of the Faculty Workgroup
President's Internationalization Committee
Associate Deans Council for Graduate Education
Associate Deans Council for Undergraduate Education

Professional Memberships
International Council of Fine Arts Deans – Chairman of the Innovations and New Directions Taskforce
Pittsburgh History and Landmarks Foundation - Trustee
Urban Studio Task Force – Founding member. Harrisburg, PA. (2004)
NIH – Obesity and the Built Environment – Scientific Review Board member (2005)
ACSA Helsinki Conference – “Thought, Language and Making” – Paper review board member (2003)

Paul Rosenblatt, AIA
Adjunct Associate Professor

Teaching Area
Practice, Theory

Courses
48.595 Under the Influence: Architecture & Art • 9 Units • S03, S04, S05 • Elective

Education
1984 Yale School of Architecture, Master of Architecture with Honors
1981 Yale College, Bachelor of Arts, Cum Laude / Double Major: Art and Architecture

Honors and Awards
2005 Cool Space Locator Award, Cool Space Locator
2004 National Academy of Design, Orville Lance Prize for Architecture
2004 Pittsburgh Business Times, Fast Tracker
2003 – 2004 Pittsburgh Glass Center, Bridge Artist Residency
1993 The American Institute of Architects, Open Plan Award / AIA Pittsburgh / Piers Project
1993 Progressive Architecture Magazine, Young Architects Issue
1995 Carnegie Mellon University, Faculty Development Grant
1993 Pittsburgh History & Landmarks, Design Award
1991 Graham Foundation Advanced Studies, Fine Arts Grant
1991 H. J. Heinz III Charitable Trust Grant, Publication Grant

Academic Positions
2003 – current Carnegie Mellon School of Architecture, Adjunct Associate Professor
1994 – 1997 Associate Professor
1988 – 1994 Assistant Professor
1987 – 1988 Adjunct Assistant Professor

Professional Experience
2001 – current SPRINGBOARD Architecture, Principal
2001 Damianosgroup, Principal
1997 – 2000 Damianosgroup, Associate Principal
1994 – 1997 Paul Rosenblatt Architect, Principal
1988 – 1994 BLPRA Architects, Principal
1985 – 1987 Margaret Helfand Architects, Project Designer
1984 – 1985 Skidmore Owings & Merrill, Designer

Significant Projects
2001 – current *SPRINGBOARD Architecture:*
Carnegie Mellon University, Tartans Pavilion, New Building
Boyd Community Center, New Building
A.E. Backus Museum, New Building
Wellesley College, Davis Museum of Art, Gallery Renovations
National Aviary, Gallery Renovations
Allegheny College, Doane Hall Renovation – Art Department
Pennsylvania Trolley Museum, Permanent Exhibition
The Maridon Museum, New Building, Permanent Exhibition, Curatorial Consulting
Herman Miller Inc., Design Consulting
Duquesne Light, Home & Garden Show Pavilion
Heinz History Center, The American Presidency: A Glorious Burden Exhibition and Eye of the Storm Exhibition,
Carnegie Museum of Art, Contemporary Directions Glass Exhibition, and Fierce Friends: Artist and Animals Exhibition
Pittsburgh Children's Museum, Waterplay and Nursery Environments
1984- 2001 Carnegie Mellon University, Music School Renovation (D+A), Architecture School Renovation (D+A) and College of Fine Arts Niches (BLPRA)
Carnegie Science Center, Education Center (D+A)
Carnegie Museums of Pittsburgh, Marketing & Development Offices (D+A),

Carnegie Museum of Art, Pittsburgh Revealed Exhibition (D+A), Light 1750-1900 Exhibition (D+A)
Andy Warhol Museum, Curatorial Offices (D+A)
Pittsburgh Cultural Trust, Robert Wilson / Richard Gluckman Public Art Project
Jewish Residential Services, Levin Clubhouse (D+A)

Research Activities

Book: Innovations in Office Design: Critical Influence Approach to Effective Work Environments
By Diane Stegmeier with Paul Rosenblatt / Wiley & Sons / 2008

Notable Publications

2007 Architectural Graphic Standards, Universal Design Chapter, Children''s Museum Waterplay
2006 Book: Omnivorous: The Art and Architecture of Paul Rosenblatt and SPRINGBOARD
By Bob Bridges, Kristina Olsen and Paul Krainack
2004 Critical Influence Design, Refereed Conference Paper, London Futures II Conference
1999 When You Wish Upon a Star: Themed Worlds, Symposium Co-Organizer and Publication Essayist
1998 The Andy Warhol Museum, Manchester: A Neighborhood Sketchbook, Exhibition Curator and Publication Essayist
1996 The Heinz Architectural Center, Developing a WWW Environment in Architectural Education, Refereed Conference Paper, ACSA Annual Meeting
1995 The Koolhaas Question: An Exquisite Corpse in Three Acts, Refereed Conference Paper, National Design Conference of AIA
1993 Cutting Up Time: Craft and Technology in the Niches Project, Refereed Conference Paper, CAAD Futures
1991 Architects + Artifacts, Exhibition Co-Curator and Designer, Society for Contemporary Crafts

Creative Art Production

2006 One-Man Show, Mesaros Galleries, West Virginia University
2005 Three Rivers Arts Festival Gallery, Hidden in Plain Sight Exhibition
2005 Foreland Gallery, 'Inkjet!' Exhibition
2003 Pittsburgh Biennial, Pittsburgh Center for the Arts
2003 Art Spot / FE Gallery, Detours Exhibition
2002 Mattress Factory, Gestures Exhibition
2001 Tzedakah Project, Four Artist Site Specific Installations American Jewish Museum / Pittsburgh
1997 Environments, Six-Artist Site Specific Installation, Pittsburgh Center for the Arts
1996 The Parthenon Project, Erie Art Museum and The Williams Center for the Arts (With Judith Turner)

Creative Scenic Design

2001 Betrayal/The Collection, Quantum Theatre, Pittsburgh, PA
2001 I Think I Like Girls, Encore Theatre Company, San Francisco, CA
2000 La Voix Humaine, Quantum Theatre, Pittsburgh, PA

Public Speaking

2006 West Virginia University Artist Lecture Series
2003 – 2004 NeoCon World Trade Fair, Critical Influence Design
2004 IIDEX Critical Influence Design

Service

Community Design Center of Pittsburgh

Registration

Architecture, Pennsylvania, Massachusetts (pending), Florida (pending)

Charles Rosenblum
Adjunct Assistant Professor

Teaching Area
History

Courses

60.205	Modern Visual Culture • F07 • Required (Art Department)
48.588	Contemporary Architectural Theory • F07 • Elective
48.588	Synergistic Space • F06 • Elective
48.448	History of Sustainable Architecture • F04, S06 • Elective
48.466	Renaissance and Baroque Architecture • S03, S04, S05 • Elective
48.583	"Buzzwords": Contemporary Architectural Speech • S02 • Elective
48.344	Architecture of Henry Hornbostel • F98, F00, F01, F02, F03, F05, S07 • Elective

Pre-College• Introduction to the History of Architecture • Summer 05, 06, 07

Educational Background

2008	Ph.D. Candidate, University of Virginia, expected
1998	M.A.H., University of Virginia
1987	B.A., Yale University

Honors and Awards

2000	Honorable Mention, Feature Beat Reporting, Pennsylvania Newspaper Publishers
1999	Henry Luce Foundation Doctoral Dissertation Fellowship
1999	Preservation Pittsburgh, Jamie Van Trump Award
1999	First place, Feature Beat Reporting, Pennsylvania Newspaper Publishers
1999	Finalist, TopFive.com, comedy writing
1987	Walter Louis Ehrich Award for Art History, Yale University

Teaching

1998 – current	Adjunct Assistant Professor, Carnegie Mellon University
1999 - 2001	Assistant Professor, Indiana University of Pennsylvania

Professional Experience

1999 – current	Architecture Critic, Pittsburgh City Paper
1992 – current	Freelance Writer, various publications
1996 - 1998	Professional Writer, William McDonough + Partners, Charlottesville, VA
1989 – 1992	Professional Writer, Cesar Pelli & Associates, New Haven, CT

Research

Current	Peter Berndtson/Cornelia Brierly Exhibition, Pittsburgh AIA, other grants
Current	Guide to CMU Architecture
Current	History of Sustainable Architecture, Henry Luce Foundation support
Current	"Signs of the Times," "Predicting the Past," "Primitive Pizza Hut," "Choosing Ancestors"
1998 - 1999	Henry Hornbostel, Luce Foundation Dissertation Grant
1997	History of Sustainable Architecture, Cummings Foundation Summer Study Grant

Selected Publications

Current	*Over 150 columns on architecture in the Pittsburgh City Paper since 1999*
Current	Regularly appearing articles in PHLF *Newsletter*
2007	"Do North." *h* Magazine (Heinz Endowments). Spring 2007, 24-31.
2007	"Gritty Brits." Exhibition Review. *Architectural Review*. May 2007, 96.
2007	"Alluring Plans for Pittsburgh." *Metropolismag.com*. March 23, 2007
2007	"Works Like a Charm." *Architects' Newspaper*. March, 21, 2007.
2007	"Why Good Architecture Matters." *Business Week* online. February 21, 2007.
2006	"Going Green." *Preservation Magazine*. September/October 2006. 36-41.
2006	"Study in Green." *Texas Architect*. July/August 2006. 40-43.
2005	"No Stone Unturned." Conference Report. *Public Art Review*. Fall/Winter 2005. P. 66.
2003	Essay on Henry Hornbostel in *Invisible Giants*. Oxford University Press, 2002.

2002 Introduction to Henry Hornbostel: *An Architect's Master Touch*. Roberts-Rinehart, 2002.
1998 Essay on Henry Hornbostel in *Dictionary of American Biography*. Oxford University Press, 1998.
1998 Essays in *Icons of Architecture: Twentieth Century*. Prestel Verlag, 1996, 2002.
1994 Essays in *International Dictionary of Architecture and Architects*.

Public Speaking

2007 Tour of Peter Berndtson/Cornelia Brierly Architecture. SAH National Conference. March 21, 2007
2006 "The Architecture of Porter Hall." CMU Engineering. April 29, 2006.
2006 "Fallingwater." NTHP Visiting Tour Group. February 2, 2006.
2005 "The Architecture of Peter Berndtson." Carnegie Museum of Art. October 25, 2005.
2005 "Uses of Architectural History in Contemporary Architecture." Wood St. Gallery. October 14, 2005.
2005 "Pittsburgh's Neoclassical Architecture." PHLF. February 10, 2005
2004 "Gesamtkunstwerke." CMU Design Department. October 5, 2004.
2004 "Historic Maps of the Filmmakers Building Site." Pittsburgh Filmmakers. June 8, 2004.
2003 Clayton: The Frick Mansion. September 8, 2003.
2003 "Pittsburgh Architecture." Denver Museum of Art, Traveling Group. April 10, 2003.
2002 "The Art of Paul Mullins." Michael Berger Gallery. Spring
1999 Frank Lloyd Wright Foundation
1999 Carnegie Museum Lunch and Learn
1999 Rodef Shalom Synagogue
1999 CMU Academy for Lifelong Learning

Service

2007 Advisory Committee Member, Preservation Pittsburgh
2006 Committee Member, *Charm Bracelet* Architect Selection Process
2005 Architectural Competition Advisor, St. Vincent College, Rogers Center
2004-5 Lecture Series Coordinator, CMU School of Architecture
2004 Committee Member, Pittsburgh Filmmaker Media Arts Campus
2003 Pittsburgh History and Landmarks Foundation, Marketing Advisory Group
2001 Architect Selection Advisor, Pittsburgh Glass Center
2000 Historical Consultant, Pittsburgh Children's Museum

Daniel Rothschild, AIA
Adjunct Associate Professor

Teaching Area
Design

Courses

48.500	Architecture in the Urban Context • 18 units • F03, S04, F04 • Required

Educational Background

1982	Masters of Architecture, North Carolina State University
1980	Bachelor of Environmental Design, Miami University

Honors and Awards

2006	AIA Pittsburgh Urban Design Award, Penn Fairmont Master Plan
2006	AIA Pittsburgh Design Award, Fairmont Apartments
2005	AIA Pittsburgh Design Award, Chatham University Arts and Design Center
2004	AIA Pittsburgh Design Award, East Liberty Development Guidelines and Vision Plan
2004	AIA Pittsburgh Design Award, University of Pittsburgh Honors College

Professional Practice / Consulting

1988-2006	Rothschild Doyno Architects
	Sarah Heinz House Boys and Girls Club
	Fairmount Apartments
	Hillel Jewish University Center
	Amber Glen Assisted Living Residence
	Dymun & Company Interiors
	Graciano/Grane Office Building

Public Speaking
President, AIA Pittsburgh

Service

Community	Worship Committee, Temple Emanuel
Professional	President, AIA Pittsburgh

Professional Memberships
Pennsylvania Registered Architect 1984

Raymund Ryan
Adjunct Assistant Professor

Teaching Area
Design Studio / History + Theory

Courses (since 1999)
Studio Master, University College Dublin, January 1993-January 2003
Adjunct Assistant Professor of Architecture, CMU, January 2005-

Educational Background
B.Arch, UCD (Ireland) 1981; M.Arch, Yale 1987

Academic Positions / Teaching Experience / Administrative Experience
Studio Master, University College Dublin, January 1993-January 2003
History + Theory courses (UCD, mid-1990s) and lectures (mostly Ireland, 1993-2003)
Visiting Studio Master, Cal Poly Pomona, California, Fall 2000
Guest: SCI-Arc, USC, Art Center, Michigan, Penn State, Pratt, McGill, AA, Limerick
Curator, The Heinz Architectural Center, CMA, Pittsburgh, January 2003-

Professional Practice (work / projects) / Consulting
Design Team Member, initial phase only, Berlaymont refurbishment (EU Commission HQ), Brussels / Advisory panel, Willemans-Ceuppens re-use, Brussels

Research
Exhibitions on Behnisch + Transsolar and Frank House, Pittsburgh in preparation

Scholarship / Publications
Catalogues: *Gritty Brits: New London Architecture* (Carnegie Museum of Art) / *Michael Maltzan: Alternate Ground* (Carnegie Museum of Art)
Books: *Building Tate Modern* (Tate Publishing) / *Cool Construction* (Thames & Hudson)
Keynote Essays: *Herzog & de Meuron*, TN Probe, Tokyo, 1996 / *McGarry Ní Éanaigh Architects*, Cork, 1997 / *tangibleintangible*, Taipei, 1998 / *Vertigo: The Strange New World of the Contemporary City*, Glasgow, 1999 / Kühne l Klein catalogue, Basel, 1999 / *Willy de Sauter*, Antwerp, 2001 / *N3*, Dublin, 2001 / *RIAI Yearbook 2001*, Dublin, 2001 / *Shay Cleary Architects*, Cork, 2002 / *Jakob Kaiser Haus*, Berlin, 2002 / *Building Flatness* New York, 2003 / *McCullough Mulvin*, Cork, 2004

Creative Production
Irish Commissioner, Venice (Architecture) Biennale, 2000 / 2002
Pittsburgh Platforms, *FLW: Renewing the Legacy*, *Michael Maltzan*, *Gritty Brits* (CMA)

Public Speaking
Lectures in Dublin / Brasilia / LA / Hamburg / Istanbul / Pittsburgh / Taichung, ROC

Diane Shaw, PhD
Associate Professor with tenure

Teaching Areas
Architectural History

Courses

48.240/79-227	History of World Architecture · 9 Units · Fall · Required
48.440/79-228	American Regionalism · 9 Units · F04, S06, S07 · Elective
48.343/79-471	American Built Environment since 1850 · 9 Units · S02, S04, S05, S06 · Elective
48.445/79-235	The City In History · 9 Units · S04 · Elective
48.447	History and Preservation · 9 Units · S99, S00, S02, S07 · Elective
48.348/79-287	Architecture of Central America · 9 Units · F03, F05, F06 · Elective
48.448	1920s-1930s: Multi-Disciplinary Perspectives on the Arts · 9 Units · F02 · Elective
54.519	”Arcadia in Context” · 3 Units · F04 · Elective

Educational Background

1998	Ph.D., Architectural History, University of California, Berkeley CA.
1990	M.A., American Studies, George Washington University, Washington DC.
1982	B.A., History, Smith College, Northampton, MA.

Honors, Awards, Grants

2007	Ferguson Jacobs Prize, research funding for village improvement project
2006	Carnegie Mellon, Commencement Speaker for BSA & BHA graduation
2005	Carnegie Mellon, Women’s Leadership Program Reception, student mentoring
2005	St. Cloud University, MN, “American Village in a Global Setting” Conference Honorarium
2004	Carnegie Mellon, President’s Weekend, donor dinner presentation on “Arcadia” course
2002	Carnegie Mellon, Berkman Faculty Development Grant, “Americas” curriculum
2002	Carnegie Mellon, Kappa Alpha Theta Faculty Recognition; teaching and mentoring honor

Academic Positions / Teaching Experience / Administrative Experience

2006-present	Associate Professor (with tenure)
2004-2006	Associate Professor (without tenure)
1996 – 2004	Assistant Professor

Current Research
“Village Improvement and the New England Landscape”
This book project investigates the ways in which New Englanders reconfigured their villages in order to move rural life forward during a modern age of changed circumstance. Amid early 20th-century reports of New England’s scenic beauty were also jeremiads to it degeneration. Local agriculture and manufacturing could not compete with the Midwestern farms and urban industrial centers, and villages were shriveling as they lost their sons and daughters to better opportunities afar. In response, village improvement societies reconceptualized their townscapes into tools for architectural, social, and economic regeneration. The resulting iconic New England green of bandstand, benches, war memorial, federated church, community hall, fountains, and electric lights was perhaps the most obvious effort to make rural life more convenient and attractive to discontented villagers. Ephemeral place-based events sponsored by village improvement societies, such as historical pageants and Old Home Week offered other opportunities to reanact community bonds and loyalties. The village tableau, along with better road signage, mountain trail grooming, guest houses, and summer camps intentionally, though somewhat contradictorily, encouraged tourism to the picturesque “wilds” of New England.

Scholarship / Publications
books/chapters in books

“Washingtonians at Home: Wesley Heights & Spring Valley,” in Washington At Home, ed. Katharine Smith (Johns Hopkins University Press, in process).

2004 City Building on the Eastern Frontier: Sorting the New Nineteenth-Century City (Baltimore: Johns Hopkins University Press, 2004).

refereed journal articles

“Village, City, Township, Town: Nomenclature and Legalities in 19th-Century New York State,” (under revision for New York History)

2007 "Cooperation and the Architectural Landscape of Village Improvement, 1900-1925" Conference Proceedings, The American Village in a Global Setting: An Interdisciplinary Conference, St. Cloud University. (Forthcoming)

in Medieval London," Journal of Medieval and Early Modern Studies 26:3 (Fall 1996): 447-466.

conference papers

2005 The American Village in a Global Setting: An Interdisciplinary Conference. "Cooperation and the Architectural Landscape of Village Improvement, 1900-1925."

2005 State Conference on New York History. Plenary Speaker. "City Building on the Eastern Frontier."

2005 Carnegie Mellon, (Im)permanence: Cultures In/Out of Time."Animating Inanimate Space: The Ephemeral Landscape of the 19th-Century New City."

2003 Heritage Education Teaching (Pennsylvania Historic Preservation & Heritage Partnerships Conference), "The Role of Historic Preservation in Post-Secondary Education–CMU."

2002 Society of Architectural Historians. "Circulating Ladies, Loafing Men, and Straggling Indians: 19th-Century Spatial Culture of Public Space," April 2002.

_review and editing activities

2005 Series Editor: "Vernacular Architecture Studies: Volume 1. Invitation to Vernacular Architecture by Thomas Carter and Elizabeth C. Cromley (Knoxville: University of Tennessee Press, 2005).

2004 Manuscript Reviewer: Review of proposal to issue second edition of Revitalizing Historic Urban Quarters by Steven Tiesdell, Taner Oc, and Tim Heath. Elsivier Architectural Press, Oxford England. Fall 2004.

2000,'03 Manuscript Reviewer: of articles for possible inclusion in Perspectives in Vernacular Architecture, University of Tennessee Press. Fall 2003, Fall 2000.

2002 Book review: "Small Towns and Nineteenth-Century Urbanization," Journal of Urban History 28:2, 220-230. Reviewing the three following,

Provincial Lives: Middle-Class Experience in the Antebellum Middle West by Timothy R. Mahoney, New York: Cambridge University Press

Constructing Townscapes: Space and Society in Antebellum Tennessee by Lisa C. Tolbert, Chapel Hill: University of North Carolina Press.

Towns and Villages of the Lower Ohio by Daniel E. Bigham, Lexington: University of Kentucky Press

Public Speaking

2005 Young Preservationists Assoc. "Places & Spaces: The Regeneration of Preservation" Welcoming Remarks.

2004 Young Preservationists Assoc., Pittsburgh, New Frontiers in Preservation. "Preservation Initiatives PHMC."

Service

-academic /

standing Architectural History curriculum committee

standing Study Abroad committee

2005-2008 School of Architecture Faculty Search Committees

2004 – 2005 Non-tenure Appointments Review Committee

2003 Faculty Senate

2003 – current Center for the Arts in Society (arts histories, curriculum)

_professional

2002 – 2005 Pennsylvania Historic and Museum Commission. Advisory Board to the Bureau of Historic Preservation. Vice Chair, 2004-2005, Chair 2005-2006.

2002-2005 Vernacular Architecture Forum, including Board of Directors, Editor of Special Series

2001, 2002 Society of American City and Regional Planning History, Montequin & Wurster Prize Committees

2002 Urban History Association Conference, Pittsburgh walking tour

Professional Memberships and Registration

Vernacular Architecture Forum

Society of American City and Regional Planning History

Society of Architectural Historians

National Trust for Historic Preservation Forum

Scott Smith
Director Metal and Wood Shop

Teaching Area
design, shop/fabrication technology

Courses:

48100	Design Fundamentals
48105	Architecture Fundamentals
48564	Furniture Design and Construction
48565	Shop Independent Study

Education:

1973	MFA Cranbrook Academy of Art in Sculpture
1971	BFA Carnegie Mellon University in Sculpture

Professional Practice:

1983-present	Director of Carnegie Mellon University's School of Architecture wood shop
1974-1986	Self employed in multiple renovation and fabrication ventures focused on residential and commercial cabinetry, and furniture

Special Teaching

2007-	*Building Furniture for the Solar Decathlon House:* Students were instructed to make this small house (constructed by other teams of students) "livable" through furniture. They inventoried types of residential furniture for possible inclusion, explored multiple use furniture, established common design criteria for the variety of furniture chosen, coordinated with other teams involved in the interior spaces, and designed and constructed prototypes of the furniture.
2005-	*Model Making in Wood*: In this course students under my direction studied, documented, drew, and built two highly detailed hardwood models for a show called *Barns of Western Pennsylvania, Vernacular to Spectacular*. Two other similar models were constructed by a School of Architecture alumus working as an independent contractor in the shop.
2005-	*Innovative Storage Systems*: Co-taught students in this class who designed special tool holders for the metal studio at the Society for Contemporary Craft in the strip
2004-	*Design/Build in the Urban Context:* Co-taught and directed a design build project with six students for the Silver Eye Gallery of Photography in Pittsburgh
1997-	Directed the construction of three hardwood models by students for the *A. James Speyer: Architect, Curator, Exhibit Designer* exhibit at the Heinz Architectural Center at the Carnegie Museum of Pittsburgh. The models are currently in the Center's permanent collection.
1992- 1993-	Directed the construction of three hardwood models by students for the Lord Burlington exhibit called, *Architecture In A Well Ordered Universe* , at the Heinz Architectural Center, Carnegie Museum of Pittsburgh. The models were of Palladio's Villa Rotonda, Burlington's villa Chiswick, and Jefferson's Monticello. The models traveled to the Royal Academy of Art in London, and are currently in the Heinz Center's permanent collection.

Scholarship/Papers:

2002-	*Assemblies: full scale construction in the freshman design sequence*, Authored by Aron Temkin in consultation with Scott Smith, 18th National Design Conference on the Beginning Design Student
1997-	*Building a Better Design,* 13th Annual Conference on the Beginning Design Student

Shop Administration

2007-	*Shop Policy Development*: Began the writing of shop rules and policies
2005-	*Metal Studio Set Up*: Coordinated and labored on clearing space, acquired equipment, determined layout and supervised equipment installation in new metals studio.
2005-2006	*Machinery Purchase*: Selected, researched, collected bids, and bought over 30 new pieces of equipment for the wood and metal shops. Installed all equipment. *Procurement of Equipment and Supplies:* Purchase materials for inventory and record and report distribution to students. Purchase all tools, machinery, parts, supplies for the wood shop *Shop Staff:* Manage one non-student part time assistant and eight to ten student monitors. Determine schedule, record and report hours worked, train/instruct, and direct staff activities while working.

2001- *Shop Move:* Oversaw the moving of all machines and equipment and inventory to new location in CFA. Co-planned, supervised and participated in the installation of equipment, electrical service for all machinery and dust collection

1997- 2001- *Shop Renovation:* Participated in meetings with the representatives of the school, college, university, and the architects about the location and design/layout of a new shop for the School of Architecture. Participated in job meetings during the renovation of the selected space.

Service:

1988-2005- Recycled all hardwood, clean plywood and panel product scraps in order to extend the educational value of the hardwood products used in the shop. This includes sorting, boxing, storing, and distributing these scraps to area day care centers. Centers which have received recycled wood include:

Pittsburgh Children's Museum
Pittsburgh Center for the Arts Education Program
Carnegie Museum of Art Summer Camp Program
Chatham College Summer Program
Jewish Community Center of Pittsburgh Child Care
Shady Lane Day Care Center
Homewood Montessori
Carnegie Mellon Children's School
And other local children's schools/programs

Professional Memberships:

Current: The Furniture Society, Archmanagers, Turners Anonymous,
Former: Associated Artists of Pittsburgh, Pittsburgh Craftsmen's Guild, Pittsburgh Society of Sculptors

Exhibitions and Awards:

1987 *Twentieth Century Design, An American Perspective From Regional Collections* Southern Alleghenies Museum of Art, and invitational
1986 *Pittsburgh National Bank Award*, Craftsmen's Guild of Pittsburgh Annual
1986 Associated Artists of Pittsburgh Seventy-Sixth Annual Exhibition
1985 *H. J. Heinz II Jurors Award*, Associated Artists of Pittsburgh Seventy-Fifth Annual Exhibition
1985 *Best of Show Award*, Craftsmen's Guild of Pittsburgh Annual
1985 Greater Harrisburg Arts Festival, Juried Museum Exhibition
1984 Pittsburgh Society of Sculptors Annual
1984 *Juror's Award, Woodworking 1984*, at Stifel Fine Arts Center, Wheeling
1983 *Juror's Award*, Craftsmen's Guild of Pittsburgh Annual
1983 *New Furniture-Ten Artists*, Three Rivers Arts Festival Invitaional
1982 Craftsmen's Guild of Pittsburgh Annual
1980 *Small Exhibition,* Associated Artists of Pittsburgh
1980 *Awarded Funding* for outdoor sculpture for Pittsburgh Society of Sculptors Exhibition at Three Rivers Arts Festival, Market Square
1979 Associated Artists of Pittsburgh Sixty Ninth Annual Exhibition
1979 *Awarded Funding* for Pittsburgh Society of Sculptor's Exhibition, *Impermanence/Permanence*, Mellon Park
1979 Two Person Show at Gallery of Shadyside Academy
1978 Pittsburgh Society of Sculptors Exhibition
1977 Associated Artists of Pittsburgh Sixty Eighth Annual Exhibition
1975 Juror's Award, Associated Artists of Pittsburgh, *Paperworks* show
1974 Undercroft Gallery, The First Unitarian Church of Pittsburgh, One person show

Selected Creative Production:

2003- Designed and completed a queen size bed using vintage air dried figured cherry wood. Design combines soft curves and slats with repetitive cutouts.
2000- Completed an expandable dining table in quarter sawn red oak using a original sliding mechanism
1999- Designed and partially constructed two hardwood tool boxes for children incorporating hand cut dovetails.
1999- Constructed a coffee table using exotic and wild grain domestic woods.
1999- Designed and constructed a Chinese checker game board.
1995- Design and construction of two group study tables for the Department of Architecture in the College of Fine Arts. The original design was a response to existing Hornbostle tables.

Kent Suhrbier, AIA, LEED AP
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.400	Architectural Design: Occupancy • Units 18 • F00 • Required
48.100	Architectural Design: Form • Units 12 • F01, F02, F03, F04, F05 • Required
48.105	Architectural Design: Space • Units 12 • S01, S02, S03, S04 • Required
48.305	Architectural Design: Building Performance • Units 18 • S07 • Required
48.355	Architectural Design: Drawing Elective • Units 9 • F07• Elective

Educational Background

1987-1992	Bachelor of Architecture, Carnegie Mellon University, Pittsburgh. Pittsburgh, PA.

Honors and Creative Work

2007	Bronze – Brick In Architecture Award, Yale Chemistry Research Building with BCJ Architects.
2006	AIA Honor Award, Macromedia Corporate Headquarters with BCJ Architects.
2003	Finalist, New brand retail prototype, L'Oreal Paris. NY, NY. with BCJ Architects.
2002	AIA PA State Honor Award, Rakow Library Renovation, with BCJ Architects.
2001	Finalist, Carnegie Museums. Pittsburgh, PA. New entrances competition with BCJ Architects.
2001-2004	AIA Pittsburgh, PA State, San Francisco Honor Awards, Apple Retail prototype design with BCJ Architects.
2001	AIA Pittsburgh, Silver Medal Award, Rakow Library Renovation, with BCJ Architects.
1998	AIA Pittsburgh, Certificate of Merit, Harry Major Machine with BCJ Architects.
1995	AIA Pittsburgh, Honor Award, WYEP Studio and Offices with Davis+Gannon Architects.
1994	First Prize, Director's Award, Refraction=Correction. International Competition. Central Park Water Reservoir/Public Space: The Subterfuge of Nature.
1993	AIA Pittsburgh, Certificate of Merit, Indiana House with McCormick Architects.
1992	First Place, Student, New Urban Housing. Pittsburgh, PA. National Design Competition, CDC of Pittsburgh.

Academic Positions

2000 - present	Adjunct Assistant Professor, Department of Architecture, Carnegie Mellon University.

Administrative Experience

2004-2005	Faculty / curriculum Coordinator for First Year Architectural Design Studios

Professional Practice

2006 – Present **Principal, dggp Architecture**. Pittsburgh, PA.
Principal Architect for current projects including: the adaptive reuse of a timber frame warehouse for the 160,000 sq.ft. Metro Center office complex in Pittsburgh, PA, design for offices and studios for Five Star Development, Pittsburgh, PA, design and planning with AvroKo for 170,000 sq.ft. of housing at 2211 Third Ave, New York, NY, interior design and detailing for the Fred Rogers Center museum and conference center, Latrobe, PA (LEED Gold targeted), designs for private residences and loft interiors, Pittsburgh, PA

2004 - 2006 **Principal, evolve Environment :: Architecture**. Pittsburgh, PA.
Cofounder of evolve Environment :: Architecture. Projects included offices, studios, and laboritories for MAYA design and MAYAviz / General Dynamics C4 (LEED CI), Stienbrenner Residence, Pittsburgh, PA, Private Residence and pool house, Sewickley Heights, PA, Ridge Residence, Indiana Township, PA, and sustainable house prototypes.

1997 - 2004 **Associate, Bohlin Cywinski Jackson Architects**. Pittsburgh, PA. Berkley, CA.
Architect and Associate for this national design firm included project manager and design architect roles for BCJ's 110,000 sq.ft. (LEED Silver) certified Chemistry Research Building at Yale University New Haven, CT. Significant roject roles with BCJ included: the design for the adaptive reuse of a 250,000 sq. ft., 100 year old timber and brick warehouse for the headquarters of Macromedia in San Francisco, CA, Apple Computer Industrial Design Studio - Cupertino, CA, Apple Computer Retail Prototype design, Sigma Xi Center - Research Triangle Park, NC, Ten United: Studios and Offices - Pittsburgh, PA, elan communications: Studios and Offices -

Pittsburgh, PA, Rakow Research Library, Corning Museum of Glass - Corning, NY, L'Oreal Paris: retail prototype design, Carnegie Museums, Entrance design competition - Pittsburgh, PA

1993 - 1997 **Project Architect, Davis+Gannon Architecture.** Pittsburgh, PA.
Expertise included project design, master planning, programming, project development, contract document production, and contract administration. Project architect for: Gladstone Middle School Renovation, SFX Broadcasting Studios, Offices, and Transmitter Building, Electric Images/U.S. Web Studios and Offices, Heinz Hall Memorial Plaque, Benetton retail location, Prime Sports retail locations. Provided master plan design and documentation for Pennsylvania Culinary Institute Campus, including site analysis, site design, and schematic design. Designed prototype store and developed national standards for Prime Sports / FOX sport net retail.

1992 - 1993 **Project Architect, Fukui Architects** P.C. Pittsburgh, PA.
Responsible for project design, project and contract administration, contract documents, and presentation material. Provided schematic design and development for Bell Atlantic Mobile retail locations, private residences, and office interiors. Responsible for in-house and consultant coordination of design, drawing, and specification production for Bell Atlantic Mobile retail locations.

1991 - 1992 **Designer, McCormick Architects and Designers.** Pittsburgh, PA.
Provided schematic design and design development for private residences, Gimbels Building lobby and entrance, Armstrong County housing modernization, and First Presbyterian Church fenestration.

Research and Exhibitions

2003 GROUND / WORK, Foundation Architecture. Pittsburgh, PA. Design and coordination of exhibit of student work. Hewllet Gallery, Carnegie Mellon University.

2002 Bohlin Cywinski Jackson : Sketches : Models : Buildings. Philadelphia, PA. Sigma Xi center: Design drawings and models, FAARM Gallery, Center for the Cultivation of Art and Architecture.

1997 Aliquippa Embraces Art. Aliquippa, PA. Site specific installation of Glass and Mixed Media

1994-1995 Refraction=Correction, Central Park Water Reservoir/Public Space. Frau Gallery, New York, NY, 1994; Universite de Montreal, Montreal, Canada, 1995; Kyong Pook National University, Taegu, Korea, 1995; Space Architecture Gallery, Seoul, Korea, 1995; International Fair of Verona, Verona, Italy, 1995.

1992 New Urban Housing. Pittsburgh, PA. National Design Competition. Community Design Center of Pittsburgh. Pittsburgh Center for the Arts.

1989 Arthur Lubetz Associates : Architecture...Energy. Pittsburgh, PA. Presentation models, promotional graphics, and exhibit design, exhibit at Frick Gallery.

Scholarship

1992 E. Neisser Grant. Design Competition. Pittsburgh

1992 University and College Honors. Carnegie Mellon University, Pittsburgh

1990 Nominee. John Stewardson Memorial Competition. Pittsburgh

Public and Invited Speaking

2005 AIA Potomac Valley Chapter, Design Award Juror

2004 Harvard University, Graduate School of Design. Career discovery, Design Studio Juror.

2003 Society of Research Administrators, National Convention. Programming : Patterning : Concept : Fit Design and Programming of Scientific Facilities for Immediate Needs & Long-Term Development

Service

2004 Member of the Head Selection committee, School of Architecture

Professional Membership

Registered Architect, State of Pennsylvania.
American Institute of Architects
U.S. Green Building Council

Francesca Torello, PhD
Adjunct Assistant Professor

Teaching Areas
History of Architecture, Urban History

Courses
48.338 European Cities in the XIX Century: Planning, Architecture, Preservation • 9 Units • Elective

Educational Background
2003 PhD in History and Heritage Preservation, Politecnico di Torino, Italy
2003 Master "Metropolis - International Program in Architecture and Urban Culture", Universitat Politecnica de Catalunya, Barcelona, Spain
1998 B.A.in Architecture, Politecnico di Torino, Italy

Fellowships, Honors, Awards
2000-2003 Italian State grant to support graduate students in a PhD program
2001 "Leonardo" European Union grant to support practice abroad for young professionals, Consiglio Nazionale Architetti, Roma (Italy) and Architektenkammer Wien (Austria)
2001 "Josef Frank Stipendium" competive award, Österreichisches Gesellschaft für Architektur, Vienna (Austria)
1999 "Cornaglia" Award for a thesis in History of Architecture, Politecnico di Torino Italy
1999 "L'Universo" national competitive award for a thesis on cultural landscape, Istituto Geografico Militare, Florence, Italy
1997 Grant from the Politecnico di Torino for project of thesis research abroad
1996 "Erasmus", European Union grant for undergraduate university exchange, Ecole d'Architecture de Grenoble (France)

Academic Positions
2007-current, Carnegie Mellon University, School of Architecture, Adjunct Assistant Professor
2003-2007 Politecnico di Torino, Italy, Postgraduate Research Fellow

Research
Research work is focused on the transformation of cities, the role of architectural history and the emergence of heritage and landscape preservation in the cultural debate in the Nineteenth and Twentieth centuries. Other interests include: history of technical education and technical professional associations, (Eighteenth to Twentieth century); visual perception and urban culture issues in the representation of the contemporary city; and more recently landscape preservation and landscape design.
2006-2009 Grant for research project on Heritage and Landscape preservation, Politecnico di Torino with Tongji University, Shanghai, China

Scholarship / Publications
Francesa Torello, Who is provincial? Reciprocal influences in architectural culture between Vienna and the provincial capitals of the Habsburg Empire, presented to the VII International Conference on Urban History, Athens-Piraeus, 27-30 October 2004, now being published in extended version in "Jahrbuch des Vereins für Geschichte der Stadt Wien", Wiener Stadt- und Landesarchiv, Wien 2007 (in preparation)

Francesca Torello "Il futuro dello stile barocco": legittimazione dinastica e architettura di stato a Vienna nel XIX secolo in Tra progetto e restauro. Allestimento, manutenzione e trasformazione nelle Residenze Sabaude in eta' contemporanea, in "Quaderni del Progetto Mestieri Reali", Torino 2007 (in press)

Francesca Torello, Vienna 1848-1891. Dibattito e modelli di intervento per la Stadterweiterung. in Vilma Fasoli, (a cura di) 1848-1898. Le trasformazioni urbane nelle province dell'impero austro-ungarico, numero monografico della rivista "Storia Urbana", Milano 2007, (in press)

Francesca Torello Interventi di trasformazione del centro antico e ruolo della Commissione di Tutela. Vienna 1850-1911, in Conoscenza e valorizzazione dell'architettura e del territorio, Torino 2006

Francesca Torello Cooperazione internazionale e mobilità dei ricercatori: alcuni progetti promossi dalla Seconda Facoltà di Architettura, in Andrea Longhi (a cura di) Architettura e territorio: internazionalizzazione e ricerca, Torino 2006

Francesca Torello, Spécialisation des disciplines et enseignement de l'Antiquité: glissements du centre de gravité entre Vienne et l'Italie, in Repenser les limites : l'architecture à travers l'espace, le temps et les disciplines, proceedings of the international conference, Institut National d'Histoire de l'Art (Paris) and Society of Architectural Historians (Chicago), CD Rom, Paris 2006

Francesca Torello Formazione dei tecnici e dibattito sulla tutela della professione: echi della situazione italiana in Austria nei primi anni del Novecento, atti del I Congresso Nazionale di Storia dell'Ingegneria, Cuzzolin Editore, Napoli 2006, pp.413-419

Francesca Torello, (con Claudia Cassatella) Riflessioni con Maria Goula sull'architettura del paesaggio europea, in "RI-VISTA, Ricerche per la progettazione del paesaggio", Anno 1 - numero 1, gennaio/giugno 2004, Firenze University Press, Firenze 2004, pp.1-7

Public Speaking / Conference & Symposium Talks

Francesca Torello Interventi di trasformazione del centro antico e ruolo della Commissione di Tutela. Vienna 1850-1911, "La città e le regole", III Congresso Italiano di Storia Urbana, Torino, giugno 2006

Francesca Torello, Spécialisation des disciplines et enseignement de l'Antiquité: glissements du centre de gravité entre Vienne et l'Italie, Repenser les limites : l'architecture à travers l'espace, le temps et les disciplines, International Conference, INHA – SAH, Paris 2006

Francesca Torello Formazione dei tecnici e dibattito sulla tutela della professione: echi della situazione italiana in Austria nei primi anni del Novecento, I Convegno Nazionale di Storia dell'Ingegneria, Napoli 2006

Francesca Torello Who is provincial? Reciprocal influences in architectural culture between Vienna and the provincial capitals of the Habsburg Empire, "European City in Comparative Perspective" VII International Conference on Urban History, Athens, October 2004

Francesca Torello, Dagli scavi archeologici alle architetture della Ringstrasse: committenza altoborghese e cultura professionale nella Vienna di fine Ottocento, "Patrimoni e trasformazioni urbane", II Congresso Associazione Italiana di Storia Urbana (AISU), Roma, giugno 2004

Francesca Torello, Il dibattito sull'abbattimento delle mura di Vienna precedente alla Stadterweiterung, in "La città e i suoi limiti", I Congresso Associazione Italiana di Storia Urbana (AISU), Lecce, 10-12 ottobre 2002

Francesca Torello, The Emperor's Capital: politics and image issues in Vienna, in "Power, Knowledge and Society in the City", VI Congress, European Association of Urban Historians (EAUH), Edinburgh, september 2002
http://www.esh.ed.ac.uk/urban_history/text/TorelloS6.doc

Francesca Torello, Dominating the conflict: private/public in the democratic era, conference "Lifescapes", ÖGFA, Vienna, May 2001
http://www.lifescapes.at/downloads/frank2000_torello.pdf

Service

2003-2007 Politecnico di Torino, Italy,in charge of international relations and cooperation projects with international partner institutions for the School of Architecture

Spike Wolff
Adjunct Assistant Professor

Teaching Area
Design

Courses

48.200	Architecture Design Studio: Composition • 18 units • F03, F04, F05, F06, F07 • Required
48.205	Architecture Design Studio: Materials • 18 units • S04, S05, S06, S07 • Required
Pre-College	Architecture Design Studio: • Sum05, Sum06, Sum07

Educational Background

1990	SCI-ARC Southern California Institute of Architecture, Master of Architecture
1984	Carnegie Mellon University, Bachelor of Fine Arts, Sculpture Concentration

Academic Positions /Teaching Experience

2003 – current	Carnegie Mellon University, Adjunct Assistant Professor of Architecture, undergraduate second year design studios
2005 – current	Carnegie Mellon University, Adjunct Assistant Professor of Architecture, pre-college design studios
2002 – 2003	Carnegie Mellon University, Substitute Instructor, undergraduate second year design studios
1992 – 2000	Guest Design Critic, undergraduate first, second and fourth year design studios SCI-ARC, Woodbury University, Otis College of Art and Design guest design critic

Professional Practice
Selected Independent Projects
• The Hurricane
A temporary Jazz Club for the Hill House Association
• Hothouse
Event design for a showcase of projects supported by the Sprout Fund
• Felix de la Concha - A Contrarreloj: A Race Against Time
Exhibition Design for the Frick Art Museum
• Re-encountering Modernism: Siting the Work of Aires Mateus
Exhibition organization and Installation for Edge Studio Gallery

Selected Projects with Firms
• City of Asylum
Extensive urban project for non-profit organization for displaced writers, with Lubetz Architects
• Kaufmann House Restoration, Loewy House Restoration and Addition
Historic Restorations of Richard Neutra and Albert Frey designed homes, with Marmol+Radziner and Associates
• Record Plant, C+C Music Factory, Ice-T Home Studio
with studio bau:ton
• Blueprints for Modern Living Exhibition, Museum of Contemporary Art Los Angeles
with Hodgetts+Fung Design Associates
• The Getty Center and Museum
with Richard Meier & Partners

Appendix C _ Undergraduate Student Handbook

Carnegie Mellon

School of Architecture

student handbook

2007-2008

www.arc.cmu.edu

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introduction

The School of Architecture Undergraduate Student Handbook is a guide to the School's rules, policies, and procedures. It is designed to give answers to common questions about the school, its curriculum, the university, and your role as a student in the five year Bachelor of Architecture professional degree program. For additional information or clarification, you may consult with the School of Architecture staff, faculty, and other university personnel.

The material in this handbook is based on current policies, procedures, and requirements. Changes to any policies will be communicated to all students as they occur. For this reason, it is mandatory that students regularly check their CMU email accounts and individual mailboxes located in CFA 200. Students must also be familiar with the policies laid out in the CMU Student Handbook, The Word, which can be found online at: www.studentaffairs.cmu.edu/theword.

Please refer to the back of this handbook for useful information such as architect resource websites, the academic calendar, facilities hours, and a directory of faculty and staff.

We ask that all students familiarize themselves with the contents of this handbook. A new edition is issued every year to ensure accuracy. We welcome comments, questions, and suggestions; our goal is to make this document an essential resource for our undergraduates and encourage feedback to make each edition more effective.

To understand the unique requirements of an Architecture education, we have included the following summary from the National Architectural Accrediting Board. This summary explains the nature of a professional degree program, outlining the three different types of accredited programs available.

"In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree." -*The National Architectural Accrediting Board 2004 Conditions and Procedures For Professional Degree Programs in Architecture*

mission of the school

The Mission of the School of Architecture is to educate outstanding professionals in design creativity, social responsibility, historical perspective, technical competence, and global environmental consciousness.

STRATEGIC DIRECTIVES
The School of Architecture views architecture design studios as the core of the undergraduate curriculum and its Integrated Design Education. Studios serve as laboratories for the exploration of analytical and creative reasoning, the critique of design solutions, and most importantly, the integration of different knowledge streams.

In a time where technology is rapidly changing, the school has made it a priority to acquire and develop advanced educational, professional, and research media and instrumentation. Likewise, administrators, faculty, and staff have recognized the continuously changing field of architecture– from professional requirements, social conditions, and environmental challenges to technical innovations.

The School of Architecture holds a deep appreciation of its multi-cultural community. This community promotes a future-oriented intellectual climate where individuals are nurtured to act as agents of change, improving social and environmental conditions nationally and abroad.

EDUCATIONAL OBJECTIVES
To create an Integrated Design Education where parallel streams of knowledge provide students with the necessary knowledge to successfully resolve complex design problems.

To fulfill the mission of the School of Architecture through a diverse and engaging curriculum; a curriculum that supports individual student interests while establishing a strong foundation for students to rely upon as they enter the professional world.

history of carnegie mellon and the school of architecture

Carnegie Mellon University had its beginnings in the Carnegie Technical Schools, founded by Andrew Carnegie on November 15, 1900. Under its initial charter, the institution intended to serve the city of Pittsburgh as a technical school, offering secondary technical education and specialized training in science and the arts.

The School of Science and Technology coupled intellectual and technical skills to produce engineer's assistants, foremen, and draftsmen. The School of Apprentices and Journeymen concentrated on the mechanics of manufacturing and building. The School of Fine and Applied Arts offered a program that would produce skilled designers, art workers, and printers. Margaret Morrison Carnegie College trained women in homemaking, nursing, and secretarial skills.

Carnegie Institute of Technology (CIT) promoted excellence in technology and engineering, and gave equal emphasis to the humanities and arts. In 1968, CIT merged with the Mellon Institute, a center for scientific research in Pittsburgh, to become Carnegie Mellon University.

Carnegie Mellon offers educational programs and promotes research in seven major areas: arts, sciences, humanities, engineering, public policy, business and computer science. Its goal is to educate professionals, create new technologies, foster knowledge, and promote the economic development of Pittsburgh and its region.

Located on a 136-acre campus adjacent to Pittsburgh's Schenley Park, Carnegie Mellon is a ten minute drive from downtown Pittsburgh. The campus population consists of 5,580 undergraduates, 2,832 masters students, 1,619 doctoral students 1,459 faculty, and 3,172 staff members.

Carnegie Mellon has offered an undergraduate professional Architecture degree program since the founding of the Department of Architecture in 1905. The primary goal of the undergraduate program has always been one of educating students to be practitioners. Under its first Dean and Department Head, Henry Hornbostel, and under succeeding department heads, the undergraduate program approached the task of educating students in the traditional manner established by the Ecoles de Beaux-Arts.

In the 1960s, under the direction of Paul Schweikher, the undergraduate program was a five-year, fixed-length program. Common during this period, it consisted of an introductory year of basic design followed by four years of architectural design.

During the 1970s and 1980s, Heads Delbert Highlands, Robert Taylor, Louis Sauer, and Ömer Akin developed the program into a four-level, variable-length program. Distinctive characteristics of the program during these years were: the introductory course in architecture, which was developed as an alternative to courses in basic design; the four-level design sequence

which defined skills necessary for advancement through the program; the technology sequence which structured architectural technology in a manner parallel to architecture design; and the possibility of completing the program in a period of four years (accomplished by 15% of students).

Under Ömer Akin, the four-level program was transformed into a three-level design sequence: a freshmen level introduction to architecture; a variable-length middle level developing both comprehensive and specialized skills; and a fixed-length final level requiring demonstration of comprehensive architectural and design skills. In 1986-87 under Akin's leadership, the program was revised to a five year sequence in which each year had its own identity and purpose. Subsequently, under the leadership of Irving Oppenheim and Ulrich Flemming, and then John Eberhard, the program evolved to build stronger course work in the areas of history, technology, and design sciences, requiring course work within other departments of Carnegie Mellon.

In the fall of 1994, Vivian Loftness was appointed Head of the School, with Bruce Lindsey appointed Associate Head in 1995. Building on the efforts led by Doug Cooper, a revised curriculum was adopted that called for creative, technical, environmental, and historical competence. At the heart of the curriculum is a studio sequence organized by the following topics: Form, Space, Composition, Materials, Site, Advanced Construction, Occupancy, Systems Integration, and Urban Design.

In the summer of 2004, Laura Lee was appointed Head of the School. With a background in teaching design studio, interdisciplinary arts, and professional practice, Lee's vision for the School is to develop a center of excellence for integrated design.

CHRONOLOGY OF SCHOOL HEADS

1905-1907	Henry Hornbostel, founder and Professor
1907-1918	Henry McGoodwin, first Head
1918-1921	Walter Kerr Rainsford, Acting Head
1921-1923	Harry Sternfeld, Head
1923-1925	Henry McGoodwin, Head [again]
1925-1948	William Frank Hitchens, Acting Head and Head
1948-1955	John Knox Shear, Acting Head and Head
1955-1956	Raymond A. Fisher, Acting Head
1956-1968	Paul Schweikher, Head
1968-1969	Robert H. Burdett, Head
1969-1975	Delbert Highlands, Head
1975-1979	Robert Taylor, Acting Head
1979-1981	Louis Sauer, Head
1981-1988	Ömer Akin, Head
1988-1989	Ulrich Flemming and Irving Oppenheim, Acting Heads
1989-1994	John Eberhard, Head
1994-2004	Vivian Loftness, Head
2004-	Laura Lee, Head

school organization

Laura Lee, Head, is responsible for all of the activities of the School. She hires faculty and staff and oversees all the financial aspects of the School. Laura is available to students by appointment through the Senior Administrative Associate at <kframbes@andrew.cmu.edu>.

Heather Workinger, Senior Academic Advisor, assists students in establishing their class schedules and gives advice about general university regulations. She is responsible for registration and transcripts. She can answer scheduling, registration, and academic audit questions. Heather is available by appointment and email at <haw5@cmu.edu> or 412.268.1540.

Diana Martin, Financial Assistant, is responsible for day-to-day financial transactions. Expenses for reimbursement should be submitted to Diana. She is also responsible for facilities maintenance issues. If you are a teaching assistant, shop monitor, office assistant, work study, or otherwise employed by the School, your time cards should be submitted to Diana on a bi-weekly basis. She can be reached at <diana2@andrew.cmu.edu> or 412.268.2356.

David Koltas, Business Manager, is responsible for all financial and personnel matters of the School. He can be reached at <dkoltas@andrew.cmu.edu> or 412.268.1561.

Bob Armitage, Computing Facilities Assistant, is responsible for the hardware and software of the schools computing clusters as well as the printing, plotting, and scanning room. Problems, questions, and comments about any of these facilities should be submitted to Bob by emailing <rja2@andrew.cmu.edu>.

Kristen Frambes, Senior Administrative Associate, directs and executes adminstrative tasks to support the School of Architecture. She also handles scheduling for the Head of the School. Kristen can be reached at 412.268.1538 or <kframbes@andrew.cmu.edu>.

Darlene Covington-Davis, Graduate Programs Coordinator, assists in the daily administration of the graduate programs, advising students (current and prospective) on administrative policies and procedures for the school and the university. She can be reached at <dc1e@andrew.cmu.edu> or 412.268.2363.

Amy Bickerton, Office Assistant, helps with the daily functioning of the School. She can be reached at <abickert@andrew.cmu.edu> or 412.268.2354.

Kelly Docter, Coordinator of Outreach Programs, organizes K-12 programs to bring Architecture education into the Pittsburgh community. She can be reached at <kdocter@andrew.cmu.edu>.

The Coordinator of Student Programs acts as the liaison between students and faculty, organizes student programs, assists with registration and speaks to prospective students.

curriculum

The curriculum of the School of Architecture meets the National Architectural Accreditation Board's Student Performance Criteria, which is listed below:

- Speaking and Writing Skills
- Critical Thinking Skills
- Graphics Skills
- Research Skills
- Formal Ordering Systems
- Fundamental Design Skills
- Collaborative Skills
- Western Traditions
- Non-Western Traditions
- National and Regional Traditions
- Use of Precedents
- Human Behavior
- Human Diversity
- Accessibility
- Sustainable Design
- Program Preparation
- Site Conditions
- Structural Systems
- Environmental Systems
- Life Safety
- Building Envelope Systems
- Building Service Systems
- Building Systems Integration
- Building Materials and Assemblies
- Construction Cost Control
- Technical Documentation
- Client Role in Architecture
- Comprehensive Design
- Architects' Adminstrative Roles
- Architectural Practice
- Professional Development
- Leadership
- Legal Responsibilities
- Ethics and Professional Judgement

Courses revolve around the Integrated Design Studio sequence. Courses fall into six areas of focus:

- Drawing and Digital Media
- Building Technology
- Environmental Technology
- History
- Professional Practice
- University Fundamentals and Electives

Combined, the curriculum is design to provide a comprehensive knowledge base that forms the foundation of the five year Bachelor of Architecture degree. Please see the following pages for course sequence lists and the undergraduate curriculum chart.

curriculum (continued)

INTEGRATED DESIGN STUDIO
48-100 Architecture Design Studio: Form
48-105 Architecture Design Studio: Space
48-200 Architecture Design Studio: Composition
48-205 Architecture Design Studio: Materials
48-300 Architecture Design Studio: Site
48-305 Architecture Design Studio: Advanced Construction
48-400 Architecture Design Studio: Occupancy
48-405 Architecture Design Studio: Systems Integration
48-500 Architecture Design Studio: The Urban Laboratory
48-505 Studio X

DRAWING AND DIGITAL MEDIA
48-120 Introduction to Digital Media I
48-125 Introduction to Digital Media II
48-130 Architectural Drawing I: A Tactile Foundation
48-135 Architectural Drawing II: Understanding Appearance
48-230 Architectural Drawing III: Perspective

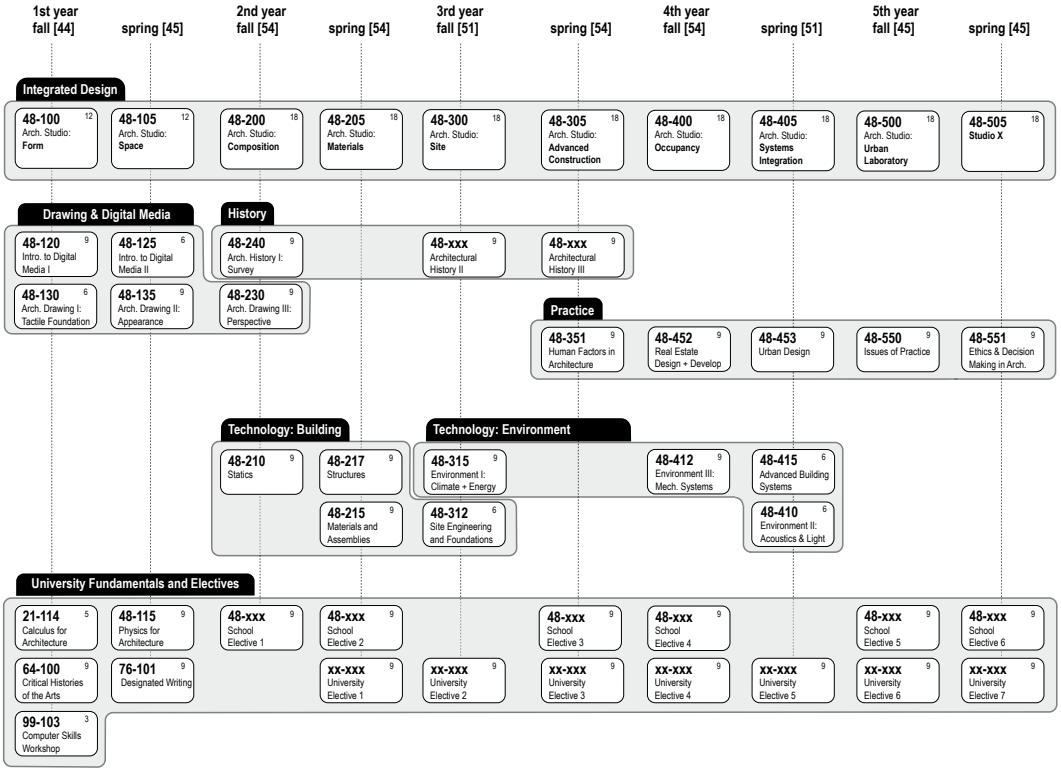
BUILDING TECHNOLOGY
48-210 Statics
48-217 Structures
48-215 Materials and Assemblies
48-312 Site Engineering and Foundations

ENVIRONMENTAL TECHNOLOGY
48-315 Environment I: Climate and Energy
48-410 Environment II: Acoustics and Light
48-412 Environment III: Mechanical Systems
48-415 Advanced Building Systems

HISTORY
64-100 Critical Histories of the Arts
48-240 Architectural History I: Historical Survey
48-xxx Architectural History II
48-xxx Architectural History III

PROFESSIONAL PRACTICE
48-351 Human Factors in Architecture
48-452 Real Estate Design and Development
48-453 Urban Design
48-550 Issues of Practice
48-551 Ethics and Decision Making in Architecture

UNIVERSITY FUNDAMENTALS AND ELECTIVES
48-115 Physics for Architecture
21-114 Calculus for Architecture
76-101 Interpretation and Argument
48-xxx School Electives (6)
xx-xxx University Electives (7)



degree requirements

A minimum of 494 units are required to graduate. In addition to the courses specified in the curriculum, students must successfully complete a minimum of six School Electives and seven University Electives as part of the 494 units. Passing grades (D and above) in all courses and a minimum Quality Point Average (QPA) of 1.75 for Freshmen and 2.0 for all other students must be maintained. Required courses are listed by sequence on page 9 of this handbook.

RESIDENCY REQUIREMENT
There is a six semester residency requirement for the award of the Bachelor of Architecture degree.

MINORS
Students may receive a minor by taking six or seven classes in an academic discipline; each college specifies the requirements for their minors, so students must contact the individual department for an outline of required courses. The Undergraduate Catalog lists all available minors as well as a contact person within each department. Students must meet with the department of interest and register as a minor to be officially recognized by that department.

DOUBLE MAJORS
Students who have received credit for required courses can supplement their schedule with additional electives. By taking approximately ten classes in an academic discipline, a student can receive an additional major. Students must contact the individual department for an outline of required courses and register as a double major candidate to be officially recognized by that department.

DUAL DEGREE
Building upon their courses in the School of Architecture, students can pursue a dual degree program in one of the following programs:

- » Undergraduate Business Program in the Tepper School of Business
- » Engineering in the Carnegie Institute of Technology
- » History in the College of Humanities and Social Sciences
- » Industrial Design in the School of Design

Students who have earned dual degrees will receive two diplomas - a Bachelor of Architecture as well as a B.A. or a B.S. in the additional area of study. Students must contact the individual department for an outline of required courses and units. Students must register with the individual department's academic advisor to be officially recognized as a dual degree candidate in that department.

5 + 1 masters degree

The School of Architecture offers a unique opportunity to undergraduate students who wish to pursue a Masters degree in an architecture-related field. We offer six different graduate degrees where undergraduate students may begin taking graduate-level courses in their fourth and fifth year of study. This allows students to graduate with a Masters degree in only one additional year of study beyond their five-year undergraduate program.

The Master of Science (MS) in Architecture degree program is intended primarily for practitioners in the building industry who are interested in gaining knowledge and skills in computation and building performance. Applicants to the program are expected to first earn an undergraduate degree related to the building sector, including architecture, engineering, planning, or management.

The Master of Science (MS) in Architecture-Engineering Construction Management program is offered jointly with the Department of Civil Engineering and aims to prepare building delivery professionals - civil engineers, construction planners, facility managers, developers, architects, planners, landscape architects, interior designers, and other building consultants - for careers in the management of design, construction, maintenance, and use of facilities. By focusing on the decision making process, the program educates professionals on ways to positively impact economic, environmental, and ethical concerns inherent in the delivery of construction projects.

The Master of Science (MS) in Building Performance and Diagnostics program is intended for practitioners, researchers, and educators in architecture and the building industry who wish to be leaders in advanced building technologies and their performance. The program covers state-of-the-art approaches to building systems integration and total building performance. The program culminates with a project in which students must apply the knowledge they have acquired to realistic problems, using the appropriate analytic and modeling skills.

The Master of Science (MS) in Computational Design program is designed primarily for practitioners in the building industry who wish to broaden their knowledge about state-of-the-art computer approaches and applications to the architectural and building sciences and for individuals who wish to pursue research careers in these areas. The program covers, in depth, a range of computational design issues and culminates with a project in which students are asked to apply the knowledge they have acquired to realistic problems.

5 + 1 masters degree (continued)

The Master of Science (MS) in Sustainable Design program is intended to educate building professionals in the rapidly expanding field of sustainable design and to prepare them for careers in sustainable design and green building. A collective process, sustainable design research focuses on ways to achieve new levels of ecological balance between the built environment and nature. Through such work, the final goal is to humanize architecture while increasing its long-term viability.

The Master in Urban Design (MUD) is a 12-month degree program to develop physical design expertise critical to establishing new directions in sustainable community design and policy. Through a partnership with the Master of Public Policy and Management in Carnegie Mellon's Heinz School of Public Policy, the MUD prepares students to collaborate effectively in multidisciplinary teams to address the challenges and opportunities to revitalize neighborhoods, cities and regions.

Ensuring sustainability and quality of life in urban and regional design must be built on both multi-disciplinary expertise and participatory processes. Physical decisions about land-use, zoning, transportation and other infrastructures, mixed use development, and neighborhood design is brought together with urban geography, economics and policy in the Carnegie Mellon MUD degree. The center piece of the curriculum is the Urban Lab, a two term neighborhood analysis and design studio in which students from different disciplines work with architects, urban designers, the neighborhoods, and political and economic decision-makers, to address the complex and multidimensional nature of sustainable cities and regions.

course guidelines

COURSE SEQUENCE
Courses in the curriculum build upon one another, making the sequence very important. Unless unusual circumstances warrant, courses must be taken in sequence. The following rules apply to the course sequence:

- Studios are prerequisite to each other.
- The calculus, physics, and English requirements must be completed to enter the second year. Therefore, all must pass calculus and physics to enter into statics.
- All required courses must be passed to enter into the third year.
- Entrance into any course depends on fulfilling all course prerequisites. See the Undergraduate Catalog and course syllabi for prerequisites.
- Non-studio courses taken at other institutions for replacement of required architecture courses must have prior school approval. You must submit a syllabus and course description of the course to the Senior Academic Advisor prior to taking the course. Approval will be based on the equivalency of the proposed course to the required course being replaced.

ARCHITECTURAL HISTORY REQUIREMENTS
All Bachelor of Architecture students must take three approved architectural history courses.

- One of the three courses must be 48-240 "Historical Survey of World Architecture and Urbanism." The other two courses must be taken within the School of Architecture and be certified by Diane Shaw as appropriate for the requirements.
- Students may not substitute architectural history courses from off campus (for example, Pitt, or a non-CMU abroad program).
- Substituting Carnegie Mellon architecture, art, or history electives that have not been approved is also not allowed.
- Students may submit a petition to the Senior Academic Advisor if they believe a course should be considered as part of fulfilling the architectural history requirement.

AUDITING A CLASS
Auditing classes is defined as being present in the classroom without receiving academic credit. You may take part in class discussion and take examinations, subject to the agreement of the instructor. You may audit courses without additional charge if you already pay full tuition and fees. Part-time and special students who are permitted to audit will be charged tuition for the audited course at the regular rate. To choose the audit option, you must obtain a Course Audit Approval Form at the HUB, online, or in CFA 201; obtain the required signatures; and return it to enrollment services at the HUB.

course guidelines (continued)

ADDING OR DROPPING CLASSES
You may add or drop a class up to the add or drop deadline as published in the official university Academic Calendar. The official deadlines for this year are also included on the last page of this handbook and in the online School of Architecture Calendar, which can be found at www.arc.cmu.edu/calendar. Classes can be dropped prior to the university drop deadline without a W grade on your transcript. You may drop a class up until the last day of classes with a grade of W being recorded on your transcript. Classes may not be dropped after the last day of class.

INDEPENDENT STUDY
Independent Study allows opportunities for students to pursue self-directed study with a faculty advisor. Students who are not on an academic action are permitted to take one independent study course (or 9 units total) with an architecture faculty member as part of their school elective sequence. Independent Studies conducted with faculty outside the School will count as university electives. Students must submit the independent study template, which includes course deadlines, requirements, objectives, schedule, and deliverables. The template requires the approval and signature of a participating faculty member (i.e. the faculty member must approve the outline and agree to act as the instructor). Once completed, the template must be submitted by the advertised deadlines prior to the first day of classes to the Senior Academic Advisor and the Head for final approval and registration. Independent studies of 3 units must include 45 hours of academic work, 6 units must include 90 hours of academic work and 9 units must include 135 hours of academic work.

academic advising

Architecture students can receive advice from many sources, including the Faculty, staff, and the Head of the School. In addition, we encourage all of our students to become involved with organizations (such as AIAS and I-AM) and committees (such as the Student Advisory Committee) so that you can also learn from each other.

Your main point of contact for academic advise will be the Senior Academic Advisor, Heather Workinger. She can answer questions about registration, course options, and academic actions. She can help you plan your courses to ensure that you meet graduation requirements.

academic rules and procedures

FINAL REVIEWS
At the end of every semester students will have final reviews of their studio projects. As a capstone to the semester, these reviews are used to determine a student's overall comprehension of the studio's focus. Final reviews are mandatory. Failure to present at a final review will result in failure of the studio course. Only under specific circumstances can a student's final review be scheduled for an earlier or later date. A student must submit such a request at least two weeks prior to final reviews.

PROFESSIONAL ATTIRE
For juries and other activities where students are representing the School of Architecture, it is expected that students dress in a professional manner and conduct themselves accordingly. Students should be clean and well rested.

SEMESTER REVIEW
At the end of each semester, each year displays their work in Margaret Morrison or CFA for one day. This provides an opportunity for the entire School to see the work of each year and allows the faculty and administration to review the quality of student work being produced. At the end of each day, a meeting is scheduled to discuss the posted work. The student's professor, the other professors of the year, and the Head all review the material displayed. They address each student's progress and make recommendations for any academic actions deemed appropriate. Semester review is required for all students. Students who do not present their work for semester review will not continue on to the next studio.

STUDIO DOCUMENTATION REQUIREMENTS
At the conclusion of every studio, each student in the School of Architecture is required to submit electronic and print documentation of their studio work. A template will be provided for this purpose. Students should refer to the specific studio deadlines and submission requirements. Failure to submit this work by the deadline will result in a failing grade for the studio course.

SCHOOL GRADES MEETING
Once final grades have been submitted and compiled, the Grades Meetings begin. A faculty representative from each sequence (Design, Drawing and Media, History, Building Technology, Environmental Technology, Practice) and the coordinator of each design year meet with the Head and Senior Academic Advisor to review each student's academic progress.

Faculty pay specific attention to students with a grade lower than a C, students with a QPA of less than 1.75 for freshmen and 2.0 for others, and students on a previous academic action. At this time, the recommendations of the Semester Review are again discussed. All actions are approved by the faculty present. Actions are then taken to the College of Fine Arts Grades

academic rules and procedures (continued)

Meeting where they are reviewed and issued by the Associate Dean. The student is sent a letter explaining the action, the reason for the action, and any conditions that may be associated with this action.

The decision to impose academic action is first initiated by the faculty most closely involved in the student's primary area of study, and then presented at the School Grades Meeting and at the College Grades Meeting. Academic Actions are the result of outstanding performance that lead to design commendations and School honors or poor performance as represented by grades typically below a C and/or for a low QPA (see University Grading Policy on page 20 of this handbook). A student who is not making satisfactory progress toward professional standards may be asked to leave even though the student has received "passing" (D or above) grades.

ACADEMIC ACTIONS
The academic actions listed below do not follow a particular sequence; any of the actions may be appropriately imposed at any time upon recommendation of the School of Architecture faculty concerned and confirmed at the School Grades Meeting. Students on academic action are not eligible to work for the school until they return to good standing.

A **Warning** indicates failure to maintain professional standards in a required course (a D or below); insufficient evidence of serious application to the professional standards of the School; or an overall quality point average below 2.00. A Warning notifies the student of unsatisfactory performance and suggests that the student take steps to determine and correct the cause of the difficulty.

A student will be placed on **Probation** after failure to pass any professional course as outlined by the faculty of the School; failure to meet the professional standards of the School although no failing grades are given (a D in Studio or an R in a required course); or failure to earn the minimum quality point average required to continue in the School, which is 1.75 for first year students, and 2.00 for all other students.

A student will be placed on **Final Probation** for significantly poor performance, or for continued failure to meet the professional standards of the School (a D or an R in two or more required courses). The student must improve scholastic standing to an acceptable level in order to be removed from Final Probation. Students not doing so may be dropped from the School of Architecture or be suspended from the University at the end of the semester.

A **Drop from Architecture** will be imposed at the discretion of the faculty in the case of any student whose progress in professional training is considered insufficient to continue. This action is taken when a student is lacking an essential

requirement for the profession, but whose general scholastic ability, habits, and character justify an opportunity in some other field of education. This action terminates the student's enrollment in the School of Architecture, but is not intended to prejudice admission to another department or college of the university or to another institution.

This academic action allows the student three choices:

- Transfer to another department within the university. (A student must contact their department of choice to discuss possible transfer.)
- Request for Transitional Student status in the College of Fine Arts for one semester. (A student must make an appointment with the Associate Dean of the College of Fine Arts to discuss this option.)
- Withdraw from Carnegie Mellon University.

A student is placed on **School Suspension** for poor performance (a low QPA), or for problems that create an impediment to professional achievement in the School at the discretion of the faculty. A student is suspended from the School, but not the university, when it is deemed in the best interest of the student to allow continuation of study outside the School during the period of suspension. The student is not permitted to take courses in the School for a period to be determined by this action, but will be readmitted at the end of the period of School Suspension specified by the faculty after the condition of the School Suspension is satisfied.

University Suspension is imposed for exceptionally poor performance (a low QPA), or for problems that create an impediment to any academic achievement. The student is required to withdraw from the university for a period to be determined by faculty action. Re-admission is subject to conditions specified in each case by the school faculty concerned.

LEAVE OF ABSENCE OR WITHDRAWAL
Students must sometimes interrupt their studies for a variety of reasons (i.e. financial, academic, or personal). For this reason, students may choose to take a leave of absence or to withdraw from the university.

A **Leave of Absence** is for students who intend to return to the university. Students who take this option must complete a Leave of Absence form, and have up to two years to return to the university. After two years, students returning are subject to space constraints and an academic performance review. Students on leave who wish to return must obtain a Return from Leave form and complete the required information before they may be considered for a return from leave.

Withdrawal is for students who do not intend to return to the university. To be recognized as withdrawing from the university, you must submit a Withdrawal form. Once you withdraw, you cannot return to the university without reapplying.

academic rules and procedures (continued)

RETENTION OF STUDENT WORK
The School of Architecture reserves the right, in conformity with university policy, to retain, indefinitely, any student work the faculty may select. All work not retained by the faculty must be removed from the School of Architecture facilities by the end of the semester. Work left behind is discarded and students will be charged for cleanup.

ATTENDANCE AND CLASS PARTICIPATION
The School of Architecture has a firm policy regarding attendance and class participation. Attendance in all studio and academic classes is required. Active participation in the studio environment is an essential part of architecture education. Studio discussions, desk critiques, and group reviews occur throughout the studio period; these interactions are enriched by students who involve themselves in the studio work and the dialogue occurring among the studio members.

In no case can a student expect to receive a passing grade without regular attendance and participation in class. Simply submitting projects, regardless of quality, at mid-semester or at the end of the semester will not allow a student to receive a passing grade. More than three inexcused absences from a required course in the School of Architecture can lead to automatic failure of the course.

ABSENCES
Students must notify faculty in advance of planned absence for religious holiday or school-related event (i.e. varsity sports trip). If you have an unplanned absence for medical or personal reasons, let the faculty know of your situation as soon as possible. In case of an extended absence for medical or personal reasons, contact the Senior Academic Advisor by mail, e-mail or phone, who will notify the appropriate faculty. Faculty reserve the right to request a formal document verifying a medical excuse.

DISABILITIES
Students with a learning disability or a physical disability are encouraged to contact Everett Tademy, Director of Equal Opportunity Services at et19@andrew.cmu.edu. The circumstances will remain confidential to the extent desired. The university has a formal procedure for documenting disabilities, notifying advisors and faculty, and making arrangements to utilize university resources in support of expressed needs, but will take no action until contacted by the student. The Senior Academic Advisor will work with the student to coordinate assistance.

FACULTY COURSE EVALUATIONS
All students are required to submit faculty course evaluations (FCEs) for classes taken at the school and university. Students will have grades withheld until an FCE for each class has been submitted. Students will fill out the FCEs online at www.cmu.edu/fce.

PRIVACY ACT
In accordance with the "Buckley Amendment" to the *Family Educational Rights and Privacy Act of 1974*, the School adheres to the following:

"Whenever a student has attained eighteen years of age, or is attending an institution of postsecondary education, the rights accorded to and the consent required of the parent of the student shall thereafter only be accorded to and required of the eligible student."

In effect, the law provides for:

- The inspection of records by a student,
- The opportunity, through a hearing, for a student to challenge the contents of the records,
- The permission of the student for the release of records,
- The maintenance of a record of all persons, including the student, who inspects the file.

As a result of this law, the HUB sends grade reports to students only. The School of Architecture sends all correspondence to students. The full privacy act, as amended, is available at the HUB or via the HUB website at http://www.cmu.edu/policies/documents/StPrivacy.html.

CHEATING, PLAGARISM, DIGITAL THEFT
The School of Architecture follows the University policy on Cheating and Plagarism, which is outlined below and can also be found at www.cmu.edu/policies/documents/Cheating.html. In addition, the School of Architecture considers signing into a class for another student and submitting identical homework assightments as forms of cheating and will result in suspension.

Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience, the university establishes clear standards for student work.

In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

Cheating includes, but is not limited to:

- Plagiarism, explained below.
- Submission of work that is not the student's own for papers, assignments, or exams.
- Submission or use of falsified data.
- Theft of or unauthorized access to an exam.
- Use of an alternate, stand-in, or proxy during an examination.
- Use of unauthorized material including textbooks, notes, or computer programs in

academic rules and procedures (continued)

the preparation of an assignment or during an examination.

- » Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.
- » Collaboration in the preparation of an assignment. Unless specifically permitted or required by the instructor, collaboration will usually be viewed by the university as cheating. Each student, therefore, is responsible for understanding the policies of the department offering any course as they refer to the amount of help and collaboration permitted in preparation of assignments.
- » Submission of the same work for credit in two courses without obtaining the permission of the instructors beforehand.

Plagiarism includes, but is not limited to, failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student:

- » A phrase, written or musical.
- » A graphic element.
- » A proof.
- » Specific language.
- » An idea derived from the work, published or unpublished, of another person.

Digital Theft is not tolerated by the School. It is illegal to download copyrighted material, including but not limited to, software, movies, and music. At least two Carnegie Mellon students have been fined $10,000 each.

Carnegie Mellon University policies also prohibit the distribution of materials owned by anyone other than the person engaged in such distribution (whether officially copyrighted or not) without the permission of the owner. The distribution of copyright protected files without the permission of the copyright holder is illegal.

UNIVERSITY GRADING POLICY

Your grade point average is calculated according to qualitative points. There are two Quality Point Averages (QPA); one for the most recent semester and one for the cumulative account of all courses. The cumulative QPA includes all Carnegie Mellon courses and courses for which you are cross-registered (see Cross-Registration on page 22) but does not include any grades transferred from other institutions.

OVERLOADING

Students may register for an overload of courses above the threshold of 54 units if they have earned a 3.0 cumulative QPA through the preceding semester. Students should consult with the Senior Academic Advisor if considering an overload. First-year students and transfer students are limited to a normal course load in the first semester of their attendance.

AUDIT AND PASS/FAIL

Audit or pass/fail classes cannot fulfill degree requirements; you may only audit or pass/fail a course if the course is not part of the required curriculum. You must register for the course first, then obtain a form from the HUB, online, or CFA 201 to be considered for these options.

FINAL GRADES

Final grades are awarded in each subject approximately five working days after the last day of finals. There is no standard criteria for grading; each instructor establishes the grading criteria for his or her course. Mid-semester grades are given at the middle of each semester; while they indicate performance for the first part of the course, they are not part of your permanent record. A permanent (final) grade may not be raised by taking a second examination. To repeat a course already passed, you must obtain approval from the Senior Academic Advisor. Both grades will appear on the official transcript and will be calculated in the University QPA. When you are absent from a final examination, and are not entitled to an I (incomplete) grade, you will be given a grade of R (retake).

A grade of **Incomplete (I)** is only given in situations where unpredictable circumstances (e.g. illness) prevent a student from completing the work for the course. You must have written documentation (e.g. a letter) verifying your extenuating circumstance. Student work already completed in the course must be at a passing level and provisions to make up the missed work cannot unreasonably burden the instructor. An I must be made up within a specified time frame (no longer than one semester) of the issuance of the initial grade. If it is not made up, the grade will become the default grade set by the instructor.

A grade of **Conditional Failure (X)** may be given to a student when it is deemed that by doing further work (not amounting to retaking the course), the student can achieve a passing level of performance. The highest grade that can replace an X is a D. If the requirements as set forth by the faculty for the completion of the work are not met, the grade of X becomes an R. Work must be completed within one semester of the issuance of the initial grade.

A grade of **Withdraw (W)** indicates a student has withdrawn from a course after the course drop deadline but before (or on) the final day of classes. Receiving a W for a required course can result in an academic action.

registration

ON-LINE REGISTRATION
Registration for classes occurs twice a year; in November for the Spring and in April for the Fall. Registration for all classes is done online. Fifth and Fourth years register on Monday, Third years on Tuesday, Second years on Wednesday, and First years on Thursday. Because the architecture program is five years, both the fourth and fifth year students register on the first day of Registration.

Check your class standing and confirm your enrollment status through the Student Information On-Line (SIO) before the date of your registration. Registration and SIO can be found on the HUB website. To access SIO: go to www.cmu.edu/hub > Online Services > Student Information Online.

Registration occurs through On-Line Registration (OLR). You will register at an assigned time based on your student ID number. After registering, be sure to quit to ensure that no one else can access your schedule. The system will check prerequisites, department priority, maximum enrollment, and keep a wait list.

The Senior Academic Advisor, Heather Workinger, reserves the three week period before registration to meet with students and discuss course options and program requirements. At the meeting, you may discuss any problems you might have and receive assistance in choosing classes. Students who do not meet with the Senior Academic Advisor upon request will have a hold placed on their registration.

ON-LINE ACADEMIC AUDIT
You can check the status of your progress towards your degree by going into the Carnegie Mellon University Academic Audit website. This audit lists all classes that you have taken as well as the ones in which you are registered, so you can clearly see which classes you must take. To access Academic Audit, go to https://acis.as.cmu.edu/moksha/audit/degreeaudit.html.

All students are responsible for meeting academic unit requirements to progress through the program and to be eligible to graduate.

CROSS-REGISTRATION
Carnegie Mellon is a member of the Pittsburgh Council on Higher Education (PCHE), a consortium which allows students from any one of its member institutions to cross-register for any other. Participants include Carlow University, Chatham University, Community College of Allegheny County, Duquesne University, LaRoche College, Point Park University, Pittsburgh Theological Seminary, Robert Morris University, Pittsburgh Glass Center, Pittsburgh Filmmakers, and the University of Pittsburgh. Full-time students are permitted to cross-register for one class per semester with no additional tuition charges. For more information, please see page 29 of the Undergraduate Catalog.

transfers

TRANSFER WITHIN THE UNIVERSITY
Students who wish to transfer to another department should meet with the appropriate advisor in that department. The student should notify the Senior Academic Advisor of the School of Architecture. If a transfer cannot take place within the context of one semester, the student may choose to become a Transitional Student. The Associate Dean of CFA will then serve as the student's advisor. This status is temporary, lasting only for one semester at which time the student will have to be admitted to a department. It is the student's responsibility, with the help of the Associate Dean of the College of Fine Arts, to request and obtain admission to another department.

TRANSFER CREDIT
Architecture students may take classes at other Universities either in the summer or as part of a study abroad program. Full course descriptions must be submitted to and approved by the Senior Academic Advisor and the appropriate faculty before registering for a course at another institution. Transfer credits applied toward graduation in the School of Architecture are limited to a maximum of 45 units. Transfer credit for all other subjects is granted through the School of Architecture, unless you are counting the course for a minor or second major.

Official translated transcripts must be submitted or mailed to the Senior Academic Advisor **prior** to the beginning of the academic year to receive transfer credit.

According to transfer credit guidelines published in the University Undergraduate Catalog, transfer credit is considered on an "individual basis... Grades are not transferred – only credits." Transfer credit is awarded upon receipt of an official transcript and only for courses in which a grade of "C" (not "C-") or better has been received. Official transcripts should be sent to the School of Architecture office, CFA 201.

STUDIO TRANSFER CREDIT
Transfer credit for required studios is limited to 18 units, unless the student is enrolled in an approved, year-long study abroad program. All transfer credit for studio displacement is subject to review upon return to the School (except work from the School of Architecture study abroad). Work is reviewed by the Head of the School.

Studio work must be displayed for review at the beginning of the semester upon the student's return. It is important for the work to be complete, either in original form or through clear reproductions. Documentation and course material should be included as well as models when possible. Additional work may be required to receive credit.

study abroad

The School of Architecture strongly encourages students to study abroad. The perspective gained through immersion in another culture and language is invaluable. A student is exposed to architectural subjects not readily available at CMU and will study architecture directly in an indigenous context. Study abroad can fall into three categories:

1. CMU Summer Study Abroad in which a studio and school elective are taught by CMU faculty.

2. Programs through other institutions, but which are affiliated with CMU. Programs last either a semester of a full academic year (in the case of EPFL). These include:

- » The Ecole Polytechnique Federale de Lausanne, Switzerland (EPFL)
- » Instituto y de Estudios Superiores de Monterrey, Mexico (ITESM)
- » The National University of Singapore (NUS)

3. Other independent study abroad programs students may find on their own, occurring in the second semester of fourth year. The following is a list of some programs School of Architecture students have attended in the past five years:

ARGENTINA	University of Buenos Aires
AUSTRALIA	Bond University
	University of Adelaide
	University of Melbourne
	University of New South Wales
	University of Sydney
AUSTRIA	Technical University of Vienna
CHILE	PUC-Santiago University
CHINA	Syracuse University
CZECH REP.	North Carolina State University
DENMARK	Denmark International Study Program (DIS)
ECUADOR	IES Quito
ENGLAND	Arcadia University - University of Manchester
	Architectural Association of London
	University College of London
GERMANY	IES Berlin
IRELAND	Queen's University of Belfast
ITALY	Cornell University - Rome
	Penn State - Rome
	Rome Tre
	Syracuse University - Florence
	Temple University - Rome
	Universita Iuav di Venezia
	University of Notre Dame
JAPAN	Temple University
KOREA	Yonsei University
LATVIA	Riga Technical University
MEXICO	ITESM Monterrey Tec
NEW ZEALAND	IES Auckland
	University of Victoria
POLAND	Technical University of Krakow
SINGAPORE	National University of Singapore

SPAIN	Elisava School of Design
	IES Barcelona
	Universitat Internacional de Catalunya
	Universidad de Navarra
SWITZERLAND	Ecole Polytechnique Federale de Lausanne

The second category reflects programs with which the school has a recognized bilateral agreement. This means that tuition and scholarship money for the programs are handled through CMU, and applications and information are administered through the Office of International Education, Warner Hall 219, 412.268.4969. Official programs do not have automatic transfer of credit but do have the distinction of transfer of grade.

QUALIFICATIONS FOR STUDY ABROAD
Students should make the decision to study abroad by the fall of their second year, so they can plan their courses accordingly. Students are allowed one semester abroad for which they receive studio credit except for those students at direct exchange programs. Students cannot study abroad in the fall semester. To qualify for study abroad, a student must have completed their third year of the program, have a minimum overall QPA of 3.0, (2.75 for CMU Summer study abroad) and be in good academic standing (no outstanding academic actions). Students must maintain QPA standards for the semester prior to studying abroad, or permission will be denied.

Note: All study abroad internal forms will be available on our website or in CFA 201.

APPLICATION AND ACCEPTANCE PROCEDURES
Students planning to study abroad must apply through both the school office with the *School of Architecture Application for Study Abroad* and the Office of International Education for non-CMU programs. Students may download the school application form from the School website.

If the program is hosted through another institution and is not CMU affiliated, the student will apply to the program's host school and complete the appropriate school office forms. In this situation, the student is entirely responsible for all the correspondence, application and financial arrangements, and for the transfer of credit. They are also responsible for integrating the courses taken (no more than 45 units and including one design studio) into their curricular requirements. Application for CMU Summer Study Abroad is handled through the School of Architecture only.

Applications are due September 28 (for study in the following summer or fall), and January 31 (for the following spring).

Applications will include an application form, an essay indicating the reason for the study abroad, and course descriptions for all proposed courses abroad. Applications from all other study abroad programs vary according to the host

study abroad (continued)

institution guidelines. All students must obtain and submit a completed Study Abroad Transfer Credit Permission form (SATC) from the Office of International Education.

All students who have completed an application will receive a written response from the School of Architecture about their status of admission into the study abroad program. The review and admission of students to the program will be conducted by a standing committee (including a member of the faculty, the Senior Academic Advisor and Head of the School). The deadlines for this response are October 15 for September applicants, and February 15 for January applicants.

Students will be notified of acceptance by the Office of International Education for official programs, by the School of Architecture for CMU Summer Study, and by the host institution for other programs. Notification dates vary.

TERM AND LANGUAGE OF STUDY
While summer language programs are available for the EPFL and ITESM; these should not be the student's only background in the required language.

- » CMU Summer Study Abroad
  Summer semester
  English
- » EPFL: Lausanne, Switzerland
  2 semesters
  French
- » ITESM, Queretaro, or Monterrey Mexico
  1 semester
  Spanish
- » NUS, Singapore
  1 semester
  English
- » Other programs
  1 semester
  Languages vary

RETURNING AFTER STUDY
Students who participate in the study abroad program for one semester will transfer non-studio course credit by submitting course descriptions of each course taken as well as an official transcript from the host Institution. Official translated transcripts must be submitted to the Senior Academic Advisor before the beginning of the academic year to receive transfer credit. The studio course will count towards Studio X. When students return from study abroad, they must pin up original work during the study abroad exhibit in early fall.

scholarships and awards

Please note that scholarships and awards paid to students are taxable and the University's policy for tax witholding will be followed.

ENTRANCE SCHOLARSHIPS
Entrance Scholarships are determined by the Office of Admissions and the Office of Financial Aid. These scholarships are based on a combination of factors including financial need, academic record, and excellence in leadership. For questions about available scholarship opportunities, you may contact the Office of Financial Aid for more information.

UNDERGRADUATE RESEARCH INITIATIVE AND SURG GRANTS
The Undergraduate Research Initiative (URI) has a variety of programs that support undergraduates in all academic disciplines across the university who want to pursue research and creative projects sponsored by university faculty. The URI distributes small grants to help cover research expenses, summer stipends for full-time research during the summer and funds to offset the expenses of presenting research at an academic conference. It also offers support services to help students write grants, find appropriate mentors, and apply to professional conferences or an on-going seminar series to help build a sense of community among students on campus who are engaged in research.

The URI offers Small Undergraduate Research Grants (SURG) which provide monetary support, up to $500, for many projects selected from a pool of applications. Each semester, students are invited to submit proposals for participation in SURG. To qualify, the project must be sponsored by a university faculty member and must be a project undertaken *in addition* to regularly scheduled classes. For application information and deadlines, visit www.cmu.edu/adm/uri.

ARCHITECTURE STUDENT AWARDS
Within the School of Architecture, annual student awards are available. These awards are based primarily on academic merit, though financial need is a factor for awards where indicated. Faculty members identify qualified candidates to compete for available awards.

Studio Commendations are given to students for excellence in design work during a particular semester. Recipients are chosen by the studio professors teaching in that year and are determined at the semester grades meeting.

School Honors are given each semester to students earning a grade point average of 3.50 or above. Students must be enrolled with a minimum of 45 units with no Incomplete grades to be eligible.

Dean's List placement is awarded to students for receiving a GPA that is within the top 15 percent of their class. To qualify for Dean's List, a student

scholarships and awards (continued)

must maintain a full load of course units and cannot receive a letter grade lower than a C for any one class or an Incomplete in any one class.

The AIA/AAF Award scholarship program is administered by the American Architectural Foundation (AAF) in cooperation with the heads of staff of NAAB accredited programs in the United States and RAIC-recognized Canadian Schools of Architecture and is available to students in their final two years of a professional degree program. A committee designated by the School of Architecture selects applicants, who must then supply a personal essay, a financial aid analysis, a drawing, transcripts, a class rank, and three letters of recommendation. Applications are due in February, and range from $500 to $2,500.

Pittsburgh History and Landmarks Prize (PHLF) for Architectural History is an annual prize awarded for excellence in architectural history. Student papers are nominated by their professor and are reviewed by a panel of Carnegie Mellon faculty and PHLF staff. A book prize is awarded for the project that best demonstrates excellence in framing a research statement, presenting evidence that supports the thesis, drawing on a variety of appropriate sources, and writing in a clear, persuasive style.

COMMENCEMENT AWARDS
The following awards are given to students either at at the College of Fine Arts Honors Ceremony or the Architecture Diploma Ceremony.

AIA Medal and Certificates are given each year as a part of the AIA/AIAS Foundation Scholarship Program. The AIA awards the Henry Adams AIA medal to the top ranking graduate in each architecture program accredited by the National Architectural Accrediting Board. The Henry Adams AIA Certificate is awarded to the second ranking graduate. Candidates are selected by the School based on the guidelines provided by the AIA national organization.

The Alpha Rho Chi Medal is awarded to the graduating student who has shown an ability for leadership, performed willing service for the School and shows promise of real, professional merit through his/her attitude and personality. The award encourages and promotes professional qualities in the student which do not necessarily pertain to scholarship. High ideals and professional aspirations, public service, and leadership are worthy of reward. Alpha Rho Chi, the National Professional Architectural Fraternity, tenders its bronze medal only to schools with accredited and/or approved architectural programs.

The Stewart L. Brown Scholarship is given on the basis of professional promise as it may be measured in both attitude and scholastic attainment. This award is given by the Pittsburgh Chapter of the AIA based on overall design work and talent. The recipient is selected based on a review of their work by a jury appointed by AIA Pittsburgh.

To graduate with **University Honors**, a student must have a QPA of 3.5 or higher by their date of graduation. Students with University Honors will receive an honors medal to wear at commencement.

To graduate with **College Honors**, a student must win a design award. Students with College Honors will receive an honors cord to wear at commencement.

SCHOLARSHIPS
The Lewis J. Altenhof Memorial Scholarship is awarded to a student studying in the School of Architecture who exhibits extraordinary academic and extracurricular achievement.

The **Cornerstones Scholarship Award** was established by Cornerstones, The Center for Architecture, Development and Building to provide financial assistance to undergraduate students in Architecture and Urban Design in the School of Architecture at Carnegie Mellon University either for tuition or materials. The amount of such scholarships and the selection of the awardees shall be determined by the Head of the School of Architecture.

The Richard M. Gensert Memorial Scholarship was established in 2005 and is sponsored by Payette Associates of Boston and Mr. George Marsh. It is named for Carnegie Mellon University Associate Professor Richard M. Gensert. Mr. Gensert was a prolific structural engineer as well as a professor of the School of Architecture in the late 1970s, teaching advanced structures on complex long span, post-tension and shell structures. In honor of his expertise and contributions to both the School of Architecture and the professional community, this award will be given to students *whose design work expresses sensitive consideration of structural issues and their relationship to architecture.*

The Gindroz Prize, established by the Marilyn and Ray Gindroz Foundation, was created to enrich and enhance student education through the travel and study of architecture, urbanism and music in Europe. Each year, a $5000 scholarship will be awarded to a third or fourth year student in the School of Architecture or the School of Music. Students will be contacted in the fall to begin the application process. Included in the application package will be a portfolio of work and an essay outlining a travel/study plan. This essay will draw connections between the student's proposed study and the educational objectives of the scholarship. The selection committee will include the Head of the School of Music, the Head of the School of Architecture, and three additional jurors selected from the Pittsburgh cultural community. Students awarded the scholarship will prepare an exhibition, lecture or recital based upon their experiences, which will be presented after they return.

scholarships and awards (continued)

The Ferguson Jacobs Prize in Architecure
The Ferguson Jacobs Prize promotes the continuity of tradition in contemporary architectural practice. It encourages design excellence based on longstanding design principles that promote beauty and harmony in the built environment. Endowed by Mark Ferguson, A '78, and Natalie Jacobs, A'79, the fund is available to Architecture students and faculty (in alternating years) proposing projects that explore the classical tradition as a vital inspiration to architectural education, practice, scholarship and research, or individual apprenticeships and internships. Proposals will be reviewed by a panel comprised of the Head of the School of Architecture, chair of the Design sequence, chair of the History sequence, and a representative of the Institute for Classical Architecture and Classical America. This prize is available in alternate years.

The Karen Myres and Arthur Lubetz Internship Fund provides financial support to students from the College of Fine Arts at Carnegie Mellon University for supervised summer internships or related programs undertaken in artistic venues under the guidance of established professionals. The internships are available to students preparing to enter their final year of undergraduate study in Architecture, Design or Music. Each award provides up to $400 per week and $4000 in total for an internship of six to ten weeks' duration. In order to be considered, applicants must satisfy university requirements regarding financial need. Funds may be used to supplement paid internships, educational programs, or volunteer efforts for non-profit organizations.

FOURTH-YEAR DESIGN AWARDS
Students are nominated for fourth-year design awards by the Head and faculty on the basis of their academic work. To be eligible, a student must:

- Be a fourth year student in the School,
- Return for at least one full semester following the semester during which the winner is chosen,
- Have outstanding academic performance in design and other courses taken towards the professional degree,
- Have no current probationary or severe academic actions on record,
- Have not competed for awards previously,
- Nominees are limited to a maximum of 16 students or a third of the class, whichever is less.

During the spring semester, all students eligible for School awards will be notified of their status and a day for the review will be announced.

Candidates are required to display their work in designated areas on the day prior to the review. Faculty will review the displayed work and examine student statements prior to the faculty meeting called to determine the winners of merit awards. The results will be announced during the annual Henry Hornbostel Lecture.

All students receiving awards will be asked to write thank-you notes to any scholarship sponsors or representatives. Students who have been granted traveling scholarships will be asked to prepare a short presentation of their experiences abroad in the form of a small exhibit and public lecture.

The Burdett Assistantship was established in 1982 in recognition of Bob Burdett's long and outstanding service to the University and profession. The fund provides support to students pursuing their first professional degrees in Architecture. The support will be offered yearly at the discretion of the Head who should seek the advice of the faculty to review candidates and criteria. The award is to *support projects and activities that will enhance student's work.* It is not to be construed as a part of the student's financial aid package in any form. The *student shall possess love of their subject, integrity, patience, fairness, and respect for others* since these qualities exemplified Bob Burdett throughout his career.

The Jan P. Junge Memorial Scholarship, established in 1988, is a gift of the Carnegie Mellon Architecture class of 1971 in memory of Jan Junge who died suddenly in 1988. Graduating from the Department of Architecture in 1971, he went on to practice with Louis Kahn in Philadelphia. This memorial scholarship is offered for an *outstanding design student with financial need.*

The Luther S. Lashmit Award is given annually to a fourth year student for the *purpose of travel.* Luther Lashmit graduated from the Carnegie Institute of Technology Graduate Program in Architecture in 1921. He returned to the University community from 1923-27 as an Assistant Professor. He spent the remainder of his career in Winston-Salem, North Carolina. Lashmit had the opportunity to study in France early in his career when he won a traveling scholarship. This experience dramatically changed his perception and vision of architecture. Through his generous gift to Carnegie Mellon and the School of Architecture, he gives a student with *exceptional design skills* the same opportunity.

The John Knox Shear Memorial Traveling Scholarship is given in memory of John Knox Shear, who graduated from Carnegie Institute of Technology and was Professor of Architecture and Head of the Department from 1949 until he resigned in 1955 to accept another position. Following his untimely death in January 1958, members of the department, graduates, and friends set out to establish a memorial to

scholarships and awards (continued)

commemorate Professor Shear's distinguished contributions to architecture and to architectural education and to benefit future architectural students at Carnegie Institute of Technology. The recipient is selected from eligible students based on a review of their work by the faculty. The recipient is expected to use the *funds towards travel*.

The Louis F. Valentour Traveling Scholarship Fund was established by Louis F. Valentour (A'49) as a generous traveling scholarship for undergraduate students in Architecture who have completed their fourth year of study. The award is intended *for travel outside the continental U.S.* The amount of the award and the selection of the awardee shall be determined by the faculty and Head.

DESIGN COMPETITIONS
The School of Architecture keeps a database of design competitions. Please visit the School's website or stop by CFA 201 to view all of the current listings. The following are Carnegie Mellon-specific competitions.

The NCMA Awards are sponsored every year by the Carnegie Mellon School of Architecture and the National Concrete Masonry Education and Research Foundation. This design competition has cash prizes and multiple winners.

Epic Metals Corporation sponsors a competition for Carnegie Mellon Architecture students to design an innovative structure utilizing Epic Metals Corporation roof or floor desk ceiling systems. Students compete for up to three prizes - first, second, and third places - that will share $2,000 in prize money. The first place team may be invited to tour Epic Metals' manufacturing plant in Rankin, PA.

WEB RESOURCES
Please visit the following websites to learn more about other design competitions:

- www.deathbyarch.com
- www.z-1.org
- www.306090.org
- www.archibot.com
- www.archnewsnow.com
- www.architecturalrecord.com
- www.designarchitecture.com
- www.di.net
- www.entablature.net
- www.pci.org/education/competitions

student representation

STUDENT ADVISORY COUNCIL (SAC)
The Student Advisory Council consists of three representatives from each year that are elected by the members of that year. They serve a one year term. Elections are organized at the beginning of the fall semester. The SAC meets at least once each month to provide a more formal means of interaction between the students, faculty, and administration. The student representatives are responsible for communicating the efforts of the council to their colleagues, bringing to the council issues forwarded by fellow students, and contributing time, energy and ideas to improve both the School and the University.

ALUMNI DEVELOPMENT COMMITTEE (ADC)
The ADC works to strengthen alumni relations. The ADC assists with alumni events and visits, communications between the School and the alumni, and contributes to the alumni database.

STUDENT COMMITTEE MEMBERS
Students are often asked to be a part of a University, College, or School committee. Students are chosen with the help of SAC. If you are interested in being a student member of a committee, contact the Coordinator of Student Programs.

AMERICAN INSTITUTE OF ARCHITECTURE STUDENTS (AIAS)
With over 6,000 student members, the AIAS is the largest professional architectural student organization in the United States. AIAS strives to address and affect today's architectural education, profession, and environment in both local and national spheres. The organization promotes excellence in architecture education, training, and practice. The AIAS seeks to enrich communities with a spirit of collaboration and to combine students' efforts for the advancement of the art and science of architecture. Over the past decade, Carnegie Mellon students have held a number of national offices.

The CMU chapter solicits memberships at the beginning of the fall semester and takes part in many national conferences and trips throughout the year. Various discounts and subscriptions are available for members. More information is available at www.arc.cmu.edu/aias or by emailing aias@andrew.cmu.edu.

The Initiative for Architectural Mentorship
Conceived and run by students, I-AM seeks to develop connections between undergraduates and professionals. As an architectural community, the program seeks to engage its context and integrate multiple spheres of resources into the experience it crafts for participants. I-AM currently hosts a visiting guest series of professionals who conduct lectures, workshops, and site visits. Additionally, student activities are coordinated by mentors. All first year students will be informally matched with a mentor and have the option to join the mentoring program after they complete their first year of study. More information is available at www.arc.cmu.edu/iam.

student representation (continued)

I SCREAM (ICE CREAM) SOCIAL
An I Scream social is held each month, usually in MMA14 at 4:30. Ice cream is served. The purpose of the Social is to facilitate communication between students, faculty, and administration in addition to enjoying ice cream. It is an opportunity for students to voice their opinions about any subject relating to architecture, the study of architecture, and the School. It is a chance for students to make announcements to their colleagues and discuss common interests and possible future activities. The Social is also open to graduate students and is an opportunity for all students of the School to socialize.

STUDENT ORGANIZATIONS
Carnegie Mellon offers a variety of student organizations to explore personal interests and meet fellow students from other colleges and schools across campus. Each fall, an activities fair is held to introduce students to the various student groups as well as garner interest and participation. The School encourages participation in any of these student organizations, and students from the School have been instrumental in organizations such as:

- Activities Board (AB)
- All University Orchestra (AUO)
- Dancer's Symposium (DS)
- Habitat for Humanity
- Lunar Gala
- Muslim Student Association
- Scotch-n-Soda Theatre
- Spring Carnival Committee
- Student Senate
- Tartan Newspaper
- Thistle Yearbook
- Ultimate Frisbee Club
- WRCT (Carnegie Mellon Radio Station)

For a full list of student organizations and contact information, please visit the Student Activities website at www.studentaffairs.cmu.edu/StudentActivities.

finding a job

The School recommends that students seek summer internships after their third year. This allows students time to build a knowledge base to actively participate in an architecture firm upon graduation.

Students should have a resume, cover letter, and portfolio prepared prior to contacting architecture firms. You can access the Career Center website, http://www.studentaffairs.cmu.edu/career/. Generally, it is recommended that students contact firms prior to spring break in order to be able to schedule interviews and firm visits.

To assist students and alumni in their search for an internship or a permanent position, the School provides several services. These include a jobs posting page on the school website, www.arc.cmu.edu, and an available positions archive located in the main office.

The School of Architecture will post all available positions on the website, under the student life section at www.arc.cmu.edu/cmu/student_life Students should check often, as updates are made continuously. Postings will be organized by the type of position (summer internship or permanent employment) and the month in which the School was contacted.

In order to assist students in finding employment, either temporary or permanent, the School of Architecture maintains a file of available positions at firms across the country. Postings are usually sent to the School from alumni. The School maintains these postings for one year, and are stored in the main office. Students may access this file during standard office hours in CFA 201.

LETTERS OF RECOMMENDATION
If you request a letter of recommendation from a faculty member, you must be considerate of time constraints and schedules. As a courtesy, you should provide the faculty member with adequate time to compose and send the letter. One month should be used as a guideline. In asking for a letter of recommendation, always include your resume, any additional forms required to be completed, a summary of the letter's intended purpose, the deadline for submission, and a stamped/addressed envelope. Faculty members have the right to refuse any request.

ETIQUETTE
If you list a professor - or anyone else - as a reference, you must first ask their permission. Students should send faculty/staff who wrote the letter a personalized thank you note.

WEB RESOURCES
- www.aia.org/careers
- www.american-architects.com
- www.archinect.com
- www.archined.nl
- www.archi-students.org
- www.architectjobs.com
- www.architects-online.org
- www.archizilla.com
- www.california-architects.com
- www.cons4arch.com
- www.construction.com
- www.designjobsearch.com
- www.insidearch.org
- www.jobtrak.com
- www.newyork-architects.com
- www.thearchitectureroom.com
- www.world-architects.com

teaching assistantships and student employment

The school hires a limited number of students for work/study positions, teaching assistantships, and various monitor positions throughout the school year. Students must be in good standing with the school and university to be considered for a work study position. Interested students should contact Dave Koltas, the Business Manager (8-1561, dkoltas@andrew.cmu.edu).

SHOP AND DIGITAL FABRICATION LAB MONITORS
The shop employs student monitors to maintain the school facilities and address day-to-day tasks. Students are hired at the beginning of the semester by Scott Smith, Shop Director (8-2291, ssbg@andrew.cmu.edu).

Digital Fabrication Lab hours and staffing will be determined for the Spring 2008 semester.

TEACHING ASSISTANTSHIPS
Each semester a number of qualified students are awarded teaching assistantships with stipends. Teaching Assistants are chosen based on their qualifications in the subject of the course, high academic standing, and interest in the subject. Eligible students must not be on an academic action, be full-time, and must have the approval of the professor. Preference is given to fourth and fifth year students. Generally, qualified students are contacted by professors prior to the start of the semester. Otherwise, students interested in positions must submit a letter of interest to David Koltas, the Business Manager, stating the course of interest, and a resume, including qualifications for the position. Assistants will be announced prior to the beginning of the semester.

ARCHITECTURE EXPLORATIONS COUNSELORS
The School of Architecture is committed to educating the community about the importance of architecture. To achieve this goal, the School offers programs to students in elementary school, middle school, and high school. Saturday classes are held for 8 weeks each semester and are taught by Kelly Docter, Coordinator of K-12 Outreach, with a select number of architecture students. Those interested in teaching younger students should contact Kelly through her e-mail at kdocter@andrew.cmu.edu. Students teachers are provided a small stipend and are required to create their own course work for the 8-week sequence.

facilities

COPIERS
Copiers are located throughout the campus. The School of Architecture copiers in CFA and MMCH are for the use of the faculty and staff only. Public printers and copy machines, including a color copier in Hunt Library, use Campus Xpress, Plaid Ca$h cards, or cash/coins.

A.V. EQUIPMENT
A.V. Equipment is available for school-related activities. This includes digital cameras and portable projectors for each studio year. This equipment is stored in the main office of the School of Architecture. Students must request equipment at least one week before the scheduled event.

FAX MACHINE
Students may send and receive faxes via the office fax machine. Incoming faxes must be labeled with your full name and year and will be put in your CFA mailbox upon arrival. The fax number for the School is 412.268.7819.

STUDIOS
The studio spaces are the heart of the physical environment of the School. The maintenance of the studio is the responsibility of the students. The studio is home to both your colleagues and your faculty. Its arrangement is a design problem that must serve many needs from individual expression to group meetings and communication. There has been a tendency for the individual expression to get out of hand, and we may ask you to tone it down at times. Students are expected to leave the studio at the end of the semester in the same condition they found it at the beginning. Failure to clean studios at the end of the semester, damage to the studio and repair beyond regular wear and tear will warrant an assessed fee of up to $50 to each student in the entire studio.

Spray adhesive, spray paint, and other aerosol media are forbidden in the studios, hallways, or in the buildings. Individuals caught destroying studio facilities can be suspended from the university. Anyone caught throwing objects off the roof or out any window will be suspended from the university (see University Suspension, p.17).

The School is not responsible for personal belongings brought into the studios. Please respect your fellow students and their property by locking studio doors and windows when the space is unoccupied.

KEYS
Studio keys and tool storage chests are distributed at the beginning of each semester. Failure to return keys will result in a fine of $50.

STUDIO FURNITURE
Students are responsible for the condition of all studio furniture including, but not limited to, desks, chairs, file cabinets, and tool storage chests. Students must use a cutting mat when cutting on any surface, especially tables or the floor. Students WILL be charged for damages, so please be careful.

facilities (continued)

CFA 214 AND MM 308 COMPUTER LABS
The School maintains computer labs for the use of undergraduate students. All students are issued an Andrew password that can be changed as desired. The labs are open 24 hours a day. The labs are 24 hour quiet spaces. Absolutely no food or drink are allowed in any computing clusters. Fines will be assessed for violations.

CFA MULTIMEDIA CLUSTER
The CFA Multimedia Cluster is located in CFA 317, 318, 321, and 323. The cluster is jointly maintained by Computing Services and the five schools in the College of Fine Arts. The clusters have PCs and MACs and are available to architecture students. The clusters are open 24 hours a day, but only staffed between 8 am and 12 am. Direct questions to Brian Fredrickson, Multimedia Studio Administrator, at bafii@andrew.cmu.edu. All CFA computers have the software required for architecture classes.

Undergraduates do not have access to the graduate computer lab, located in MM403, or its printers. Serious fines will be assessed for using the graduate computer lab.

COMPUTER LAB USERS
The computer lab of the School is expressly for the use of the students, faculty, and staff. Use by other students is by permission or by enrollment in courses offered by the School. If you observe unauthorized use, please inform arc-computing@andrew.cmu.edu. Use of the plotters are based on availability. All students enrolled in the School of Architecture are provided accounts on the School's data server. These accounts are available to students until the August following their graduation.

GENERAL COMPUTER LAB RULES
- Eating, drinking, and smoking are expressly forbidden in the lab. Users should step out of the lab if they need to eat or drink. Smoking is prohibited in all University buildings. Violations will result in $25 fine for first offense, $50 for second, $100 for third. A fourth abuse of this rule will result in permanent loss of use privileges.
- Game playing is forbidden in the labs, unless it is specifically related to course work.
- Headphones must be used for all music.
- Loud and disruptive behavior is not allowed.
- No animals are allowed in the labs.
- Rendering that requires longer than a half hour should be done overnight when lab use is minimal. You may not log into multiple machines to do multiple renderings. You may only log into one machine at a time. Violation of this rule will result in suspension from lab use.
- No personal software may be installed on lab machines.
- All data must be stored on an external device or on the server. The School is not responsible for any data left on the machines.
- All problems with machines should be immediately conveyed in detail to arc-computing@andrew.cmu.edu. The description of the problem should be precise, including the machine in question, the software being used, the task being performed, etc.
- Everyone is responsible for security. Do not allow unfamiliar people in the lab.

PRINTING
- Multiple copies are forbidden. The lab printers are not copiers and should not be used as such. If you require multiple copies of a document please print one copy and take the output to a copy station on campus.
- Large printing jobs are not permitted. Jobs may be 50 pages at most. Printing larger jobs or multiple copies will result in loss of privileges.
- Use double-sided prints whenever possible.
- Transparencies, sticky back, and all other personally supplied media are expressly forbidden for use in the lab printers.
- Please recycle print paper.
- Please inform arc-computing@andrew.cmu. edu if the toner is low.
- There are three plotters available. Two plotters are free to use, but students are responsible for providing their own paper. The plotter located in the plot office requires a fee, which is based on the square footage of your plot. Students submit their files to the plot monitor, who will plot the file.
- Plot monitor hours will be posted on the appropriate door.

SERVER SPACE
The School is committed to providing server space for each student, faculty, and staff member. While every effort is made to make the servers secure, stable and available, the School is in no way responsible for data or the guarantee of access. It is simply safe computing to have multiple backups of important data. Server space is limited to 2 gigabytes for each student. Use is monitored by quota software and users exceeding 2 gigabytes may lose data. Files will be maintained through August for graduating Seniors after which the data will be erased. Servers are for the storage of data only. Software found in user volumes will be removed.

SOFTWARE
All use, copying, distribution, or solicitation of unauthorized or pirated software is expressly forbidden and punishable by law. Fines can exceed $100,000 and jail time per incident.

A limited number of software keys in each lab are available. These allow a set number of students to access specialized software for a specific period of time. If all keys are in use, a screen will appear upon opening the software application

facilities (continued)

notifying a student of the time until the next software is available.

ARCHITECTURE SHOP
The School maintains a shop in the basement of the College of Fine Arts. It is specifically for the use of architecture students and faculty for class and School-related projects. The shop director is Scott Smith. The shop assistant is Brian Miller. There are a number of student monitors (see Shop and Digital Fabrication Lab Monitors on page 36 of this handbook) that have authority in the operation and safety of shop use.

Safety is a prime concern in the use of the shop. Students are expressly forbidden to use tools unless they have received proper instruction in their use by either the Shop Director, the Shop Assistant, or a Shop Monitor. Loose clothing, headphones, and loose hair are not allowed in the shop. Hearing and eye protection must be used at all times and covered shoes should be worn at all times. Goggles, face shields, and ear plugs are provided in the shop. Hours of operation are posted on the shop door. While we will make every effort to have the shop open during posted operating hours, it is not guaranteed. The shop has a limited amount of various materials that can be purchased by students. See Scott Smith for details.

SHOP HOURS

Monday-Friday	10:00 am - 10:00 pm
Saturday	12:00 pm - 6:00 pm
Sunday	12:00 pm - 10:00 pm
Summer Hours	By appointment

DIGITAL FABRICATION LAB
The School is working towards completing the Digital Fabrication Lab located in the basement of Margaret Morrison Hall. This state-of-the-art facility includes various digitally driven additive and subtractive tools, including 3D printing, laser cutting, 3-axis CNC milling and vacuum forming among others. A materials library, workshop space and CAD/CAM cluster are also part of the facility. Use of the 'Fab Lab' is restricted this fall to facilitate completion. Wider accessibility will be implemented in the spring semester. Details concerning access and use are forthcoming.

communications

SCHOOL WEBSITE
The School of Architecture website (www.arc.cmu.edu) is a hub for up-to-date information concerning classes and events. We encourage students to use this website to find postings about internships, upcoming school events, and major community announcements. Students may also provide the webmaster with links to personal websites which contain resumes, portfolios, or personal profiles. Updates to the school website can be made by contacting the webmaster at arcwebm@andrew.cmu.edu.

DISPLAY CASES
Display cases are located on the second floor of CFA by both stairwells and on the third floor of Margaret Morrison. A schedule of displays is coordinated with faculty from the School. Students who wish to create displays may schedule time by contacting the Coordinator of Student Programs.

MESSAGE BOARDS
There are two message boards maintained by the School of Architecture. One message board is located outside the main office in CFA, and the other is located on the third floor of Margaret Morrison. These message boards are for official school communication only, and will include school announcements, important deadlines, community activities, employment opportunities and competition announcements. Students should check these message boards regularly for announcements.

E-MAIL
The primary means of communication between members of the School of Architecture is through e-mail. All students are issued an e-mail address and have access to the Andrew System. It is the responsibility of members of the School community to check their andrew e-mail regularly. We recommend that you check once in the morning and once in the evening every day.

In addition to maintaining standard email etiquette, students are not allowed to use school distribution lists (d-lists) without first requesting permission**.** Students who wish to use these lists should contact the Head.

You may check your e-mail at any University or School computer cluster. Individual classes and studios may have separate bulletin boards or blackboard sites on the Andrew Network. To access the Blackboard system go to: http://www.cmu.edu/blackboard

MAILBOXES
Student mailboxes are located on the 2nd floor in CFA 200 and should be checked at least once a week. Faculty mailboxes are inside CFA 201.

faculty directory

AKIN, OMER	8-3594	MM412	oa04@andrew.cmu.edu	Professor
ARSCOTT, MARYLOU			mlarscott@cmu.edu	Adjunct Associate Professor
AURAND, MARTIN	8-8165	HUNT	ma1f@andrew.cmu.edu	Senior Architecture Librarian Archivist
AZIZ, AZIZAN	8-6882	MM410F	azizan@cmu.edu	Senior Researcher, CBPD
BOYKOWYCZ, WALTER			wb09@andrew.cmu.edu	Adjunct Professor
BRILL, CHRISTINE			cb6g@andrew.cmu.edu	Adjunct Assistant Professor
BUCCO, TERESA			tbucco@andrew.cmu.edu	Adjunct Assistant Professor
BURNS, DAVID			dburns@andrew.cmu.edu	Adjunct Assistant Professor
CALISTI, LEE	8-6389	MM307	lcalisti@andrew.cmu.edu	Adjunct Assistant Professor
CARLOUGH, GARY			carlough@andrew.cmu.edu	Adjunct Professor
COOHILL, JOE			jcoohill@andrew.cmu.edu	Adjunct Assistant Professor
COOPER, DOUGLAS	8-2367	MM204B	dcooper@andrew.cmu.edu	Andrew Mellon Professor
DAMIANI, GERARD	8-3861	MM307B	gdamiani@andrew.cmu.edu	Adjunct Professor
DAVIS, JEFF			jtdavis@andrew.cmu.edu	Adjunct Associate Professor
DOYNO, KEN			kdoyno@andrew.cmu.edu	Adjunct Assistant Professor
DRAKE, SARAH			sdrake@andrew.cmu.edu	Adjunct Assistant Professor
EL SAMAHY, RAMI	8-6256	MM201A	samahy@andrew.cmu.edu	Adjunct Assistant Professor
FICCA, JEREMY	8-6667	MM201	jficca@cmu.edu	Assistant Professor
FINEOUT, MATT			mfineout@andrew.cmu.edu	Adjunct Assistant Professor
FISHER, ERIC			ericarch@andrew.cmu.edu	Adjunct Assistant Professor
GANNON, KEVIN			kgannon@andrew.cmu.edu	Adjunct Associate Professor
GOETTEL, SHELDON			sgoettel@pwapgh.com	Adjunct Professor
GOLLI, JONATHAN			jgolli@andrew.cmu.edu	Adjunct Assistant Professor

GROSS, MARK	8-2767	MM412C	mdgross@cmu.edu	Graduate Program Director and Professor
GUTSCHOW, KAI	8-7999	MM202A	gutschow@andrew.cmu.edu	Assistant Professor
GWIN, MIKE			mgwin@andrew.cmu.edu	Adjunct Assistant Professor
HARTKOPF, VOLKER	8-2351	MM415	vh02@andrew.cmu.edu	Professor and Director, CBPD
HOKANSON, ERIK			hokanson@andrew.cmu.edu	Adjunct Assistant Professor
HUTZELL, KELLY	8-6256	MM201A	kellyh@andrew.cmu.edu	Caste Assistant Professor
JOHNSON, DON			dj2d@andrew.cmu.edu	Adjunct Assistant Professor
KING, JEFF			jefferyk@andrew.cmu.edu	Adjunct Assistant Professor
KLINE, JONATHAN	8-2366	MM309	jonathak@andrew.cmu.edu	Adjunct Assistant Professor
KRISHNAMURTI, RAMESH	8-2360	MM412B	ramesh@cmu.edu	Professor
KURLAND, KRISTEN	8-6254	MM204C	kurland@andrew.cmu.edu	Associate Teaching Professor
LAM, KHEE POH	8-8503	MM415	kplam@cmu.edu	Professor
LEE, LAURA	8-5563	CFA201	llee@cmu.edu	Professor and Head
LEE, STEVE	8-3528	MM415	stevelee@andrew.cmu.edu	Professor
LIMAURO, CINDY	8-1573	PCA219	limauro@andrew.cmu.edu	Professor of Drama
LOFTNESS, VIVIAN	8-1539	MM415	loftness@andrew.cmu.edu	University Professor
LUBETZ, ARTHUR			al4d@andrew.cmu.edu	Adjunct Professor
LUCCHINO, JENNIFER			lucchino@andrew.cmu.edu	Adjunct Assistant Professor
MACDONALD, DUTCH			dm4j@andrew.cmu.edu	Adjunct Assitant Professor
MATTERN, GERRY			mattern@andrew.cmu.edu	Adjunct Professor
MCNUTT, MICK			mmcnutt@andrew.cmu.edu	Adjunct Assistant Professor
MINNERLY, CHRIS			minnerly@andrew.cmu.edu	Adjunct Assistant Professor
MINNERLY, MARK			mfm@cmu.edu	Adjunct Assistant Professor

faculty directory (continued)

MONDOR, CHRISTINE	8-2366	MM309	cmondor@cmu.edu	Adjunct Assistant Professor
MORRIS, JASON			jlmorris@andrew.cmu.edu	Adjunct Assistant Professor
OPPENHEIM, IRVING	8-2950	PH107A	ijo@cmu.edu	Professor
PLECITY, MATT			mplecity@andrew.cmu.edu	Adjunct Assitant Professor
REID, ROBERT			rr2c@andrew.cmu.edu	Adjunct Assistant Professor
RICO-GUTIERREZ, LUIS	8-3798	MM412A	lrico@andrew.cmu.edu	Associate Dean, College of Fine Arts
ROSENBLATT, PAUL			pr13@andrew.cmu.edu	Adjunct Associate Professor
ROSENBLUM, CHARLES	8-9163	MM204A	charles4@andrew.cmu.edu	Adjunct Assistant Professor
ROTHSCHILD, DAN			droths@andrew.cmu.edu	Adjunct Associate Professor
RYAN, RAY			ryanr@carnegiemuseums.org	Adjunct Assistant Professor
SHAW, DIANE	8-1525	MM202B	dshaw@andrew.cmu.edu	Associate Professor
SMITH, SCOTT	8-2291	CFA A19	ssbg@andrew.cmu.edu	Director, Shop
SUHRBIER, KENT			ks2o@andrew.cmu.edu	Adjunct Assistant Professor
TORELLO, FRANCESCA			ftorello@andrew.cmu.edu	Adjunct Assistant Professor
WOLFF, SPIKE			lwolff@andrew.cmu.edu	Adjunct Assistant Professor

staff directory

ARMITAGE, BOB	8-1542	CFA201	rja2@andrew.cmu.edu	Computing Facilities Assistant
BICKERTON, AMY	8-2354	CFA201	abickert@andrew.cmu.edu	Office Assistant
COVINGTON-DAVIS, DARLENE	8-2363	MM411	dc1e@andrew.cmu.edu	Graduate Program Coordinator
DOCTER, KELLY	8-1541	CFA201	kdocter@andrew.cmu.edu	Coordinator of K-12 Outreach
FOX, LIZ	8-8178	MM107	lf01@andrew.cmu.edu	Assistant Dean for Research
FRAMBES, KRISTEN	8-1538	CFA201	kframbes@andrew.cmu.edu	Senior Administrative Associate
JARRETT, JIM	8-1492	MM415	jj2q@andrew.cmu.edu	Research Technician
JARRETT, SHARILYNN	8-6263	MM415	sharilyn@andrew.cmu.edu	Assistant to Director, CBPD
KOLTAS, DAVID	8-1561	CFA201	dkoltas@andrew.cmu.edu	Business Manager
MARTIN, DIANA	8-2356	CFA201	diana2@andrew.cmu.edu	Financial Assistant
MILLER, BRIAN	8-2361	CFA A19	bpmiller@andrew.cmu.edu	Shop Assistant
WORKINGER, HEATHER	8-1540	CFA201	haw5@cmu.edu	Senior Academic Advisor

useful information and resources

ARCHITECTURE RESOURCES

Main Office	CFA 201	8-2355
Main Office Fax	CFA 201	8-7819
Graduate Program	MMCH 410	8-2363
Intelligent Workplace	MMCH 415	8-2350
Architecture Shop	CFA A19	8-2361

UNIVERSITY RESOURCES

Campus Police/Emergencies		8-2323
Information Desk		8-2107
HUB (Enrollment Services)		8-8186
Career Center		8-2064
University Art Store		8-2968
Hours: Mon-Thurs	8 am - 6 pm	
Friday	8 am - 5 pm	
Saturday	10 am - 4 pm	
Sunday	12 pm - 3 pm	
Bookstore and Computer Store		8-2968
Hours: Mon-Thurs	8 am - 6 pm	
Friday	8 am - 5 pm	
Saturday	12 pm - 4 pm	
Entropy		8-2117
Hours: Mon-Sun	6:30 am - 2:30 am	

USEFUL WEBSITES

- » www.acsa-arch.org
- » www.aia.org
- » www.archvoices.org
- » www.aias.org
- » www.thearchitectureroom.com
- » www.ncarb.org
- » www.archi-students.org
- » www.naab.org
- » www.deathbyarchitecture.com
- » www.archinect.com

JOB SEARCH WEBSITES

- » www.jobtrak.com
- » www.archined.nl
- » www.cmdg.com/profile
- » www.insidearch.org
- » www.akropolis.net
- » www.creativeplanet.com
- » www.world-architects.com
- » www.newyork-architects.com
- » www.california-architects.com
- » www.american-architects.com
- » www.designjobsearch.com
- » www.creativeplanet.com
- » www.thearchitectureroom.com
- » www.architectjobs.com
- » www.architects-online.org
- » www.construction.com
- » www.designarchitecture.com
- » www.archizilla.com
- » www.aquent.com
- » www.cons4arch.com
- » www.academickeys.com

DESIGN COMPETITION WEBSITES

- » www.deathbyarch.com
- » www.z-1.org
- » www.306090.org
- » www.archibot.com
- » www.archnewsnow.com
- » www.architecturalrecord.com
- » www.designarchitecture.com
- » www.di.net
- » www.entablature.net
- » www.pci.org/education/competitions

academic calendar

FALL 2007

27 AUGUST	First Day of Classes
3 SEPTEMBER	Labor Day - No Classes
19 OCTOBER	Mid-Semester Break - No Classes
5 NOVEMBER	Course Drop Deadline
	After this date, receive W
12-16 NOVEMBER	Spring Registration
21-23 NOVEMBER	Thanksgiving Break
7 DECEMBER	Last Day of Classes
	Last day to receive W
3-7 DECEMBER	Final Review Week
10-14 DECEMBER	Semester Review
10-18 DECEMBER	Final Examinations

SPRING 2008

14 JANUARY	First Day of Classes
21 JANUARY	Martin Luther King Day
	No classes after 12:30 pm
7 MARCH	Mid-Semester Break - No Classes
10-14 MARCH	Spring Break - No Classes
31 MARCH	Course Drop Deadline
	After this date, receive W
14 APRIL	Summer Registration
17-19 APRIL	Spring Carnival - No classes
21-25 APRIL	Fall Registration
28 APRIL - 2 MAY	Final Review Week
2 MAY	Last Day of Classes
	Last day to receive W
5-9 MAY	Semester Review
5-13 MAY	Final Examinations
18 MAY	Commencement

Appendix D _ Graduate Student Handbook (Masters)

Master Degree Programs

Graduate Student Handbook
2007-2008

rev 14 Aug 2007

SCHOOL OF ARCHITECTURE
CARNEGIE MELLON UNIVERSITY

GRADUATE PROGRAM HANDBOOK
Master Degree Programs

1. Graduate Studies in Architecture

Carnegie Mellon University is recognized for outstanding contributions to science, technology, management, and the fine arts. The School of Architecture contributes significantly to this work and maintains leadership in fundamental research and innovative applications of design computing and building technology. The School builds on a long tradition of work in these areas and is a pioneer in computational design (computer-aided design and computer applications to building sciences) and building performance and diagnostics (performance evaluation and diagnosis of buildings). The faculty of the School reflects a diverse set of backgrounds with a long-standing commitment to professional practice and scholarly research.

1.1 Master Degree Program Offerings

The School of Architecture offers six Master degree programs.

The **Master of Science in Architecture** is a 9-month program introducing practitioners to the fundamentals of computational design and building performance and diagnostics.

The **Master of Science in Architectural Engineering Construction Management** is structured as a 9-month or 16-month program, to prepare building professionals for careers in decision making that can have a positive impact on economic, environmental, and ethical concerns through the management of design, construction, maintenance, and use of facilities.

A 2-year **Master of Science** program is offered in both **Computational Design** and **Building Performance and Diagnostics**. These programs are intended for practitioners and for individuals planning a career in research or application programming in these respective fields.

The **Master of Science in Sustainable Design** is structured as a 12-month program to prepare design professionals for careers in sustainable design and high performance green building.

The **Master in Urban Design** is a 12-month degree program to develop physical design expertise critical to establishing new directions in sustainable community design policy.

Our graduates hold positions in innovative design practices, research organizations, federal and municipal governments, and the building and manufacturing industries both in the United States and abroad. Our programs reflect a high commitment to excellence and combine the challenge of learning with the resources to succeed. Students with motivation and the ability will find outstanding educational opportunities at Carnegie Mellon University.

For detailed information on the research areas and PhD programs, refer to the School of Architecture Graduate Student Handbook for PhD programs.

2. Graduate Program Administration

2.1 Graduate Program Committee

The Graduate Program Committee comprises all Faculty Coordinators of respective Master Programs, Principal Advisors of PhD students and two student representatives. The student representatives, (one PhD and one Master student, are elected each year by students of the respective programs. The Director of the Graduate Program,

appointed by the Head of the School of Architecture, chairs the Committee. The Committee monitors all post-professional programs and makes recommendations to the Head of the School. The Chair of the Graduate Program Committee determines who can or cannot vote on any matter brought before the committee, based on consideration of the role, qualification and expertise of members in relation to the subject matter, any potential conflict of interest or violation of confidentiality circumstance. Such determination shall be communicated in writing in advance to the Committee along with motion(s) prior to the vote being taken.

The Graduate Program Committee reviews applications to the Graduate Program in the Spring semester of each year and decides on admission or rejection. It also considers and may approve any petition requesting an exception from the academic guidelines and requirements spelled out in this document. Student representatives in the Committee are excused from the review and decision making process.

3. Master Degree Programs

3.1 Program Curricula and Requirements

Details pertaining to program descriptions, curricula and degree requirements are given in each of the respective Master Degree Programs in the sub-sections below.

3.2 Admission into the Master Program

All applicants to the Master programs must complete the necessary application with all required supporting documentation. Application information is available at the School of Architecture web site at http://www.arc.cmu.edu/cmu/admissions_financial/grad.jsp.
The Graduate Program Committee will decide on the outcome of the application based on a review of the completed application materials. Each applicant will be notified of the outcome by letter from the Director of the Graduate Program.

3.3 Organization of Master Program

3.3.1 Areas of Concentration

Each student enters the program and works toward a Master degree in a particular area of concentration as stated in section 1.1 above. Curriculum requirements for the respective programs are given in Appendix 1.

3.3.2 Student Advising

A Master student is guided throughout his/her academic study in the School by the Faculty Coordinator of the respective Master Program.

Students may also seek advice from the Director of the Graduate Program, the Head of School and the other graduate program faculty as well as the Graduate Program Administrative Coordinator.

Students are expected to see their Faculty Program Coordinator periodically to report their academic progress as well as prior to registration for courses of the following semester. Students are expected to bring to the attention of the Faculty Program Coordinator matters such as: course selections, course substitutions or transfers, performance in courses and other academic matters.

3.3.3 Residency Requirements

Minimum full-time residency requirements are stipulated in the respective Master degree programs.

The maximum candidature period for a Master degree expires at the end of the fifth academic year following the September of the year admission is granted into the degree program. Any period of absentia (where granted) is counted in this maximum candidature period. Any exception must be approved by the Graduate Program Committee under recommendation of the Faculty Program Coordinator.

3.4 Master Program Descriptions and Curricula

The descriptions and curricula of the Master degree programs offered by the School of Architecture can be found in Appendix 1 of this Graduate Program Handbook.

4. Standards, Policies and Practices

Unless otherwise stated, and where specific and detailed declarations are provided by the School of Architecture, the Master Programs in the School adopts the standards, policies and practices stated in the prevailing Carnegie Mellon University Graduate Student Handbook, pertaining to academic advising, academic resources, curricular and enrolment issues, and academic rights and responsibilities.

4.1 Program Administration

The Master programs are administered by the Graduate Program Committee as defined in Section 2 above. Their roles and responsibilities are generally described in Section 2 and specifically described in relevant sub-sections under Section 3.

4.2 Academic Advising

See section 3.3.2 above.

4.3 Academic Resources

The University offers a range of academic resources which are listed in the University Graduate Student Handbook. These include Academic and Professional Development Seminars and Workshops, Teaching Support, intercultural communication, computing services and libraries.

4.4 Curricula and Enrolment Information

The University Graduate Student Handbook provides information pertaining to:

- Standards for Academic and Creative Life
- Privacy Rights of Students
- Academic Standards and Actions
- Cheating and Plagiarism, and
- Academic Disciplinary Actions Overview.

4.4.1 Specific Declarations in the School of Architecture

4.4.1.1 Privacy Rights of Students - Student Reports and Records

A file is created and maintained by the Graduate Program Administration when a student first enrolls in the Master Program. The following documents will be maintained in each file:

- Application and all supporting documentation, and admission review forms completed by relevant members of the Graduate Program Committee
- Any academic action reporting by the Graduate Program Committee – letters of commendation, warning, probation.
- Any formal report of academic progress and performance by the Graduate Program Committee
- Documentation pertaining to the enrolment status of the student – provided by the School's graduate program administration
- Documentation on financial support, e.g., award of scholarships, fellowships, etc. where applicable.

Access and review of the student's records by students and university personnel are governed by the Pubic Law 93-380 "The General Education Provisions Act" and other relevant policies of Carnegie Mellon, as stated in the University Graduate Student Handbook.

4.4.1.2 Academic Actions and Standards

4.4.1.2.1. Academic Integrity and Disciplinary Actions

All Master students are strongly recommended to read the University Graduate Student Handbook with regard to *Cheating and Plagiarism* and *Academic Disciplinary Actions Overview for Graduate Students* as well as the University policy web page at http://www.cmu.edu/policies/documents/Cheating.html. The School of Architecture adopts all definitions and practices as stipulated, including:

Statute of Limitation
Confidentiality
Procedures
Initial Review
Decision and Action(s)
Reporting of Initial Action(s)
Second-level Review and Action(s)

4.4.1.2.2 Grading Policy

Unless otherwise specifically declared, the School of Architecture adopts the University policy which offers details concerning university grading principles for students taking courses (http://www.cmu.edu/policies/documents/Grades.html). This policy covers the specifics of Assigning and Changing Grades (including Final and Mid-Semester grades, Incompletes and Conditional Failures), Grading Options (Audit and Pass/Fail), Drop/Withdrawals, Course Repeats, and defines the undergraduate and graduate Grading Standards.

Questions about grading for a specific course should be addressed to the instructor of the course in question. Graduate students with questions about Pass/Fail and Drop/Withdrawal should contact their Faculty Program Coordinator and Graduate Program Director.

Appeals for an exception to any grading policy may be made by the Dean's office of the College of Fine Arts to the University.

The Graduate student Grading Standard, according to University Policy (as of Fall 1995) is as follows:

Grading	Quality Points	
A+	4.33	
A	4.0	
A-	3.67	
B+	3.33	
B	3.0	Minimum for good standing
B-	2.67	
C+	2.33	
C	2.0	Minimum to be counted towards degree requirements
C-	1.67	
D+	1.33	

D	1.0	
R	0.0	Failure
X	0.0	Conditional failure
S	Non-factorable	Satisfactory
P	Non-factorable	Passing
N	Non-factorable	Not Passing
O	Non-factorable	Audit
W	Non-factorable	Withdrawal
I	Non-factorable	Incomplete
AD	Non-factorable	Credit granted for work completed at another institution or by examination credit

4.4.1.2.3 Progress Review

The Graduate Program Committee reviews the academic progress of all Master students at the end of each semester, after the semester grades are issued and prior to the School's grades meeting. Student representatives in the Committee are excused from the review and decision making process. The purpose of this meeting is to review and monitor the progress of Master students. In this meeting, the Chair will present a written progress report to the Graduate Program Committee along with oral reports by each Faculty Program Coordinator of each Master student. Any academic actions or recommendations developed are transmitted, in writing, to students and to the Head of the School by the Graduate Program Committee, after the Graduate Program Grades Meeting held at the end of each semester.

In addition to the Grading Practices and Academic Actions stipulated by the University and College of Fine Arts, the Graduate Program in School of Architecture has implemented the following School level actions:

COMMENDATION

For achieving a quality point average of 4.0 in any semester while carrying a full academic load of a minimum of 36 units AND comprising a minimum of four courses.

WARNING

For achieving a grade below a minimum of B- in a course related to the program concentration OR a minimum grade of C in any course taken in any semester while still maintaining a minimum overall quality point average of 3.0.

For achieving a grade below a minimum of B- in a course related to the program concentration OR a minimum grade of C in any course taken in any semester AND does not maintain a minimum overall quality point average of 3.0.

PROBATION

For repeated "WARNING" performance defined above in a consecutive semester after WARNING has been previously issued, AND when the Graduate Program Committee determines that there is still a possibility for the student to improve his/her performance to meet requirements for graduation as stipulated in the respective program descriptions in Appendix 1.

DROP FROM PROGRAM

For repeated "WARNING" performance defined above in a consecutive semester after WARNING or PROBATION has been previously issued, AND when the Graduate Program Committee determines it is unlikely that the student will be able to meet the requirements for graduation.

4.5 Academic Rights and Responsibilities

Standard information pertaining to academic rights and responsibilities listed in the University Graduate Student Handbook cover the following:

Degree attainment: achievement, timeline and format of requirements
Financial Support
Dissertation and Theses
Graduate Student Concerns and Grievances
All But Dissertation Policy
Intellectual Property Policy
Research
Policy for Handling Alleged Misconduct in Research

4.5.1 Specific Declarations in the School of Architecture

4.5.1.1 Degree Attainment and Support Services

Specific detailed declarations pertaining to degree attainment and support services have been made in Sections 3 and 4 of this School of Architecture Graduate Student Handbook.

4.5.1.2. Student Rights – Concerns and Grievances

The School of Architecture adopts the University's practices regarding student rights. Students who believe that they have been treated inappropriately are encouraged to raise their concern(s) with their Faculty Program Coordinator, Director of Graduate Program, Head of School or other designated people in their department, college or central administration. For further information about procedures that graduate students can pursue when addressing concerns and grievances, go to www.cmu.edu/adm/gpo/concerns (Graduate Student Concerns: Advocates and Other Resources).

4.5.1.3 "Grandfather" Policy

The School maintains a "grandfather" policy that assures that students can graduate under the policies in effect at the time of matriculation or choose to change if/as new policies arise.

4.5.1.4 Intellectual Property Policy, Research and Policy for Handling Alleged Misconduct in Research

The School adopts the University's policies pertaining to Intellectual Property (www.cmu.edu/policies/documents/IntellProp.html), Restricted Research (www.cmu.edu/policies/documents/RestrictResearch.html), and Handling of Alleged Misconduct in Research (www.cmu.edu/policies/documents/ResrchMisc.html).

4.5.1.5 Financial Obligations and Support

The tuition charges for each academic year, as published by the University, apply only to the Fall and Spring semesters. Summer tuition, whenever applicable, are additionally charged and are normally based on number of academic units taken. The University also publishes estimated cost of living for a graduate student each year.

The School of Architecture does not normally provide financial support for Master students. Refer to section 4.5.1.9 "University Information on Finances and Financial Aids" for other available financial support sources.

4.5.1.6 Graduate Student Conference Fund

The School of Architecture encourages students to advance their own academic, professional and career development through the publication and presentation of papers and/or attendance at conferences, seminars, symposia and workshops. A limited funding budget is available each year through the School of Architecture and is intended to offset the costs associated with the presentation of papers, posters, research products or creative work. Applications are considered on a first-come-first-serve basis, subject to available fund balance. Details on policies and application procedures are given in Appendix 2.

4.5.1.7 Outside Employment

Outside employment is discouraged during the period of full-time graduate studies except where specified by any given program. When employment in an outside organization is obtained, the student's Faculty Program Coordinator and the Head of the School must be notified in writing.

International students are reminded that they must adhere to US Citizenship and Immigration Services (USCIS) policies governing their stay in the USA.

4.5.1.8 Visiting Students, Scholars and Fellows

Visiting students, scholars and fellows supported by outside funding sources who wish to undertake post-graduate or non-matriculating academic work at the School of Architecture may do so at the discretion of the Head of the School, and may be required to provide an amount equal to the current graduate student tuition to the School on a semester by semester basis.

4.5.1.9 University Information on Finances and Financial Aids

The "Finances and Financial Aid" section in University Graduate Student Handbook provides detailed and useful information regarding the following:

Fellowship Resource Advising Center
Graduate Student Transition Loans
Emergency Student Loans
Graduate Professional Development Funding
Research and Teaching Assistantships
Student Employment
Summer Stipend Payment Options
Tax Status of Graduate Student Awards

Appendix E _ Graduate Student Handbook (Doctor of Philosophy)

Doctor of Philosophy Degree Programs

Graduate Student Handbook
2007-2008

rev Aug 14 2007

SCHOOL OF ARCHITECTURE
CARNEGIE MELLON UNIVERSITY

GRADUATE PROGRAM HANDBOOK
Doctor of Philosophy Degree Programs

1. Graduate Studies in Architecture

Carnegie Mellon University is recognized for outstanding contributions to science, technology, management, and the fine arts. The School of Architecture contributes significantly to this work and maintains leadership in fundamental research and innovative applications of design computing and building technology. The School builds on a long tradition of work in these areas and is a pioneer in computational design (computer-aided design and computer applications to building sciences) and building performance and diagnostics (performance evaluation and diagnosis of buildings). The faculty of the School reflects a diverse set of backgrounds with a long-standing commitment to professional practice and scholarly research.

1.1 Doctor of Philosophy Degree Program Offerings

The Doctor of Philosophy is offered in **Building Performance and Diagnostics** , **Computational Design**, and **Architecture Engineering Construction Management** (jointly offered with the Civil and Environmental Engineering Department), for those who wish to specialize in research and to prepare for academic careers as well as leadership in industry and practice.

These programs vary in purpose and content, but share similarities in

- a firm commitment to the highest standards of research among institutions of higher education and practice in the field of design of the built environment;
- leadership provided by the mature and highly qualified faculty of the School, augmented by colleagues in other departments of the University; and
- a well prepared and qualified student body undertaking programs of study with strong technical and analytical requirements.

The objective of the Doctor of Philosophy program is to educate researchers capable of establishing the foundations of a research discipline in architecture. The program views architectural research as an integral component of the international scientific community. Graduates entering the program are expected to be capable of competently undertaking empirical studies, developing and testing models, and otherwise undertaking the basic activities of research.

Our graduates hold positions in innovative design practices, research organizations, federal and municipal governments, and the building and manufacturing industries both in the United States and abroad. The Ph.D. program has produced outstanding researchers and educators in the building sector at many leading institutions. Our programs reflect a high commitment to excellence and combine the challenge of learning with the resources to succeed. Students with motivation and the ability will find outstanding educational opportunities at Carnegie Mellon University.

1.2 Areas of Concentration

1.2.1 Building Performance and Diagnostics

The PhD program in building performance and diagnostics merges fundamental knowledge in building science and environmental physics (energy conservation, lighting, acoustics, indoor air quality) with advance building systems integration and innovative design processes. Pursuing parallel goals of human ecology, environmental sustainability, and advanced building design and construction, the faculty of the Center for Building Performance

and Diagnostics (CBPD) possess an interdisciplinary and complementary range of expertise, from professional practice to fundamental and applied research.

In 1988, the Center established the Advanced Building Systems Integration Consortium (ABSIC), a university-industry-government partnership that supports the collaborative research of the CBPD. The National Science Foundation has designated the CBPD as an Industry/University Cooperative Research Center. The Center is instrumental in the application of major systems integration concepts and advanced technologies to significant building project in the USA and around the world, in China, Korea, France and Germany. Together with ABSIC, the CBPD has constructed the Robert L. Preger Intelligent Workplace™. This demonstration facility is a "living" and "lived-in" laboratory for teaching and research in the performance of innovative building products and assemblies integrated into an actual working office. Equipped with advanced computer and diagnostic equipment, the facility informs education and professional practice.

1.2.2 Computational Design.

The PhD program in computational design started in the late 1960's and is among the best known in the country. From the beginning, the program has benefited from close cooperation with other units in the university, especially the School of Computer Science and the Department of Civil and Environmental Engineering. Research has always concentrated on fundamental issues that arise in connection with the emergence of computers as a new design and decision-making tool and medium. Its general mission is to advance the state-of-the-art in computing technology and building design and to contribute to the establishment of a rigorous foundation for its use.

Current research exploits the potential of computation in researching and developing systems, methods, and tools for design that surpass limitations inherent in more traditional media. Principal areas of concentration have been formal grammars applied to the analysis and generation of designs, knowledge-based design systems, integrated design systems, and cognitive studies of the way designers and architects perform their tasks. The School's research is recognized internationally for its rigor and interdisciplinary orientation. Sponsored research in computational design includes work funded by the National Science Foundation and the National Institute for Standards and Technology. Faculty also conducts such collaborative research through their affiliation with the Institute for Complex Engineering Systems (ICES) and other Carnegie Mellon departments. Graduates of the program have gone on to become leaders in the industry and education.

1.2.3 Architecture Engineering Construction Management

The PhD program in Architecture-Engineering-Construction (AEC) Management is jointly offered by the School of Architecture and the Department of Civil and Environmental Engineering.

The mission of the program is to prepare facility and infrastructure delivery professionals for management careers that can have a positive impact on economic, environmental, and usability issues in the delivery and use of facilities. Its principal domains of application are in the government, industry, business and NGO sectors where design professionals continuously make large-scale facility design and operation decisions.

The focus of the AEC Management program on the entire design life-cycle process marks one of our innovative approaches. Another innovation is the consideration of facilities integral with advanced information systems for improved performance and environmental impact. Specific research and applications include (a) environmental sustainability for facilities and infrastructure (LEED certification), (b) building requirement specification and modeling, (c) sensor based reasoning about building systems, (d) first-responder information systems, and (e) building commissioning.

2. Graduate Program Administration

2.1 Graduate Program Committee

The Graduate Program Committee comprises all Faculty Coordinators of respective Master Programs, Principal Advisors of PhD students and two student representatives. The student representatives, one PhD and one Master student are elected each year by students of the respective programs. The Director of the Graduate Program, appointed by the Head of the School of Architecture, chairs the Committee. The Committee monitors all post-

professional programs and makes recommendations to the Head of the School. The Chair of the Graduate Program Committee determines who can or cannot vote on any matter brought before the committee, based on consideration of the role, qualification and expertise of members in relation to the subject matter, any potential conflict of interest or violation of confidentiality circumstance. Such determination shall be communicated in writing in advance to the Committee along with motion(s) prior to the vote being taken.

The Graduate Program Committee reviews applications to the Graduate Program in the Spring semester of each year and decide on admission or rejection. It also considers and may approve any petition requesting an exception from the academic guidelines and requirements spelled out in this document. Student representatives in the Committee are excused from the review and decision making process.

2.2 The PhD Program Committee

The PhD Program Committee comprising all faculty who are Principal Advisors of PhD students, administers all matters pertaining to the PhD programs. Members of the PhD Program Committee are also members of the Graduate Program Committee. The Chair of the Graduate Program Committee is a member of the PhD Program Committee.

The committee reviews and decides on all recommendations made by a student's advisory committee with respect to a student's progress (see Section 3 below). In this way, the committee assures that standards of excellence are maintained, consistently and uniformly, across the program.

3. PhD Program

3.1 Overview

Work towards a Ph.D. degree is divided into three phases, with indicative nominal duration: Course Work and Candidacy (one to four semesters), Thesis Proposal (one to two semesters), and Dissertation (two to four semesters).

In the first phase, students take courses on the tools, concepts, and methods that characterize their area of concentration. The candidacy qualifying examination is normally taken after the student has completed all coursework requirements as stipulated in the respective program concentration curricula. This phase ends when a student passes the qualifying examination.

In the thesis proposal phase, the student completes the preliminary research needed to plan a course of action leading to a successful dissertation on a selected topic. The thesis proposal must be publicly defended. This phase ends when the thesis proposal is accepted.

In the dissertation phase, the student writes a dissertation on the selected topic that represents a significant research accomplishment, makes a significant contribution to knowledge in the area of concentration, and includes material worthy of publication. The dissertation must be publicly defended. The students will be awarded the degree upon successful completion of the defense and submission of the final dissertation document.

3.2 Admission into the PhD Program

All applicants to the PhD program must complete the necessary application with all required supporting documentation. The Graduate Program Committee will decide on the outcome of the application based on a review of the completed application materials.

3.3 Organization of Program

3.3.1 Areas of Concentration

Each student enters the program and works toward a PhD in a particular area of concentration as stated in section 1.2 above. The detailed curriculum requirements for the respective concentrations are given in Appendix 1.

3.3.2 Advisory Committee, Qualifying Examination Panel and Doctoral Committee

Upon admission, each PhD student will be assigned an advisor (based on the student's research interest), who will be the Principal Advisor of the student. The Principal Advisor, who must be a full-time faculty of the School of Architecture, is responsible for all academic and administrative actions that become necessary during the course of study. Students, in consultation with his/her Principal Advisor, are responsible for selecting an Advisory Committee. This is normally done after completing all required coursework.

The Advisory Committee must be composed of at least three faculty members. The Principal Advisor will chair the Advisory Committee. One of the members of the Advisory Committee must be external to the School.

Students may request to change the composition of the Advisory Committee at any time during the course of study. Such request must be made in writing to the PhD Program Committee, and will be reviewed and subject to approval by the Committee.

For the Qualifying Examination in Phase 1 of the PhD Program, the Advisory Committee will form the Examination Panel (see Section 3.3.4.1.2 below).

For Phase 2: Thesis Proposal and Phase 3: Dissertation, the Advisory Committee will become the Doctoral Committee of the PhD candidate (see Sections 3.3.4.2 and 3.3.4.3 below).

3.3.3 PhD Game Plan

Once the Advisory Committee is formed, the student must submit a Game Plan to PhD Program Committee, which will include the following information:

(i) the names and affiliations of members of the Advisory Committee
(ii) specification of the chosen area of concentration and an abstract of scope of work within the area of concentration
(iii) a list of courses taken (with grades achieved) and/or to be taken.

The Game Plan must be signed by the student's advisory committee, and submitted to the PhD Program Committee no later than one month after the formation of the Advisory Committee. The Game Plan (and any modifications) must be approved by the PhD Program Committee. A template of the Game Plan is given in Appendix 2

3.3.4 Program of Study

The minimum required full-time residency (minimum 36 academic units per semester) for the PhD program in the School of Architecture is **two years**.

Students are required to be enrolled full-time during the thesis proposal phase.

Students who are unable to complete any phase after twice the expected time may be asked to withdraw from the program. See also section 3.3.5.1.1 Time Limit on Doctoral Candidacy Status.

3.3.4.1 Phase I: Course Work and Candidacy

The objective of this phase is to familiarize students with the tools, concepts and methods that characterize their area of concentration.

3.3.4.1.1 Course Work Requirements

Students entering the program, unless otherwise approved, must complete the schedule of courses, and achieve the minimum total course work units for the selected area of concentration.

Students entering the program with a Master degree from Carnegie Mellon University or other institutions, through written petition, may be granted waivers for those courses already taken, and these may be counted towards the required total course work units; such courses will be assigned a Pass grade which is non-factorable toward the QPA calculation. However, the student's Advisory Committee may also require additional courses deemed necessary for the specific topic in the area of concentration.

Students, in consultation with their Advisory Committee, may also request for substitution of a required course to meet specific need.

The student is responsible for submitting all requests for course waivers and substitutions and any other deviation from the published course work requirements to the PhD Program Committee through the Principal Advisor (and with his/her agreement) for approval. All approved changes given in writing must be recorded by the student in his/her Game Plan accordingly. Regardless of any such change, the minimum full-time residency requirement must be fulfilled.

3.3.4.1.2 Qualification for Candidacy.

The PhD written Qualifying Examination is administered once each semester, within the first month.

The student must complete the required coursework and submit an up-to-date Game Plan (see Section 3.3.3) to the Graduate Program Administration prior to taking the Qualifying Examination.

The student's Advisory Committee will form the Qualifying Examination Panel.

The objective of the Qualifying Examination is to provide evidence that the prospective candidate is

- familiar with basic concepts, techniques and methodologies that characterize the selected area of concentration;
- ready and able to apply this knowledge through independent and self-directed research on his/her own;
- ready to demonstrate an ability to deal with specialized as well as broader views related to the field of study.

The examination consists of two parts:

WRITTEN EXAMINATION

- a written part in which a student is asked to provide written answers to questions posed by the Qualifying Examination Panel. Composition of the questions is to meet several goals:
    - test the candidate's knowledge of the area of concentration in depth;
    - cover both conceptual and technical issues; and
    - test the candidate's ability to address a wider range of issues and problems associated with the field of study.

Each examiner poses one question and these are compiled by the chairperson of the Qualifying Examination Panel. The questions are circulated to the School's PhD Program Committee for review and feedback is provided to the Examination Panel.

The student is given one day to provide an answer to each question. The answers are then reviewed by the Examination Panel.

ORAL EXAMINATION

- an oral examination scheduled not later than two weeks after the answers for the written part have been received. This examination is conducted by the Examination Panel, based on the answers submitted by the student. It provides an opportunity for follow-up explorations within the spectrum of topics established through the courses taken by the student.

The oral examination is attended by the Examination Panel and by, at least, one faculty designated by the PhD Program Committee, to act as an observer of the proceedings. Only the Examination Panel is allowed to ask

questions. At the end of the examination, the Panel solicits the opinions of faculty present and formulates their own evaluation.

There are three possible outcomes:

1. The candidate passes the examination

2. The candidate fails, but in the Examination Panel's judgment, is able to correct his/her deficiencies through additional work and re-examination. The scope and schedule of re-examination must be specified in writing. The candidate is permitted to be re-examined only once.

3. The candidate fails and is dropped from the program.

This evaluation is submitted in written form to the PhD Program Committee for the records, and a copy is provided to the student.

Phase 1 ends when a student passes the Qualifying Examination and is awarded doctoral candidate status and granted the All But Dissertation (ABD) status as defined in Section 3.3.5 below.

3.3.4.2 Phase II: Thesis Proposal

The objective of this phase is to identify a suitable thesis topic and to complete the preliminary research needed to plan a course of action leading to a successful dissertation on that topic. Students will have to demonstrate their ability to:

- isolate, define and structure a previously unstructured or unresolved problem in their area of concentration;
- make an original contribution to this field;
- follow the general conventions and techniques of academic research;
- apply knowledge and skills acquired through the course of study;
- communicate ideas in a clear and coherent manner.

3.3.4.2.1 Form of Proposal

A thesis proposal must be submitted in written form to the Doctoral Committee and prepared for an oral presentation at a public seminar. It should be concise and lucid, but sufficiently complete to allow for an evaluation of the above criteria.

The following parts are required:

1. a cover page listing the proposed title; the student's name; the School's name and the degree sought; the names and affiliations of the Doctoral Committee members; and the date of submission.
2. an abstract which summarizes the proposal and succinctly states its salient points.
3. a description of the research problem to be addressed in the thesis. This description must:
    - state the problem in a concise manner
    - explain its significance and the context in which it arises
4. a description of the approach to be pursued. It must contain at least:
    - a review of the research and theory relevant for solving the problem
    - a specification of the conceptual framework adapted for solving the problem
    - an identification of specific theories, methods or sources of data expected to be employed in the thesis
    - a preliminary timetable
5. a brief bibliography

Once it has been accepted by the Doctoral Committee the proposal presentation can be scheduled.

3.3.4.2.2 Submission of Proposal

One week prior to the scheduled proposal presentation, two copies of the thesis proposal must be posted publicly, and all faculty of the School of Architecture will be notified of the time and place of the meeting by the School.

3.3.4.2.3 Presentation of Proposal

The proposal must be presented at a public seminar. The faculty at large of the School will be invited to this presentation. The Doctoral Committee must be present. The Doctoral Committee will make a decision on the acceptance of the proposal, based on the written proposal, the seminar and the opinions of the attending faculty. This decision is communicated in writing to the PhD Program Committee for the records and to the student within one week of the examination. It is up to the discretion of the PhD Program Committee to ask any candidate who fails the proposal to withdraw from the program. No student can remain in the program after two failed proposal attempts.

3.3.4.3 Phase III: Dissertation

The objective of this phase is to write a dissertation based on the selected topic that

- represents a significant research accomplishment
- makes a significant contribution to knowledge in the area of concentration
- includes material worthy of publication.

3.3.4.3.1 Submission of Dissertation

Candidates must submit to the Doctoral Committee a substantially complete version of their dissertation not later than one and one half months before the deadline stipulated by the University in the semester in which they hope to complete their PhD program of study. The committee then has a maximum of one month to review the dissertation; during this time, the student may be required to do further writing and amendments.

Two weeks prior to the scheduled dissertation defense, three copies of the final draft will be posted publicly, and all faculty of School of Architecture will be notified of the time and place of the meeting by the School.

3.3.4.3.2 Dissertation Defense

A dissertation must be publicly defended. This defense serves two functions:

(1). it gives faculty the opportunity to assess whether the research program specified in the student's thesis proposal has been carried out satisfactorily;

(2). it provides a forum for the communication of the research results.

No dissertation will be scheduled for public defense until the document representing the work of the candidate is reviewed and accepted for presentation by the student's Doctoral Committee. It must include, at a minimum:

(i) title page
(ii) abstract
(iii) table of content
(iv) a finished text that completely describes the work and includes all references and citations.

The style and format of this document shall conform to those accepted in the field closest to the dissertation's field of study. This document will be called the "final draft" of the dissertation, from here on.

The dissertation defense must be scheduled only during the Fall or Spring semesters according to the official University calendar. The Chair of the Doctoral Committee will organize the event and inform the Graduate Program administration. The administration will disseminate the event announcement throughout the campus.

The Doctoral Committee will make a decision on the acceptance of the dissertation, based on the written work and the oral defense and consideration of views of other faculty. This decision must be communicated in writing to the PhD Program Committee for approval. It is up to the discretion of the PhD Program Committee to ask in writing any candidate who fails the dissertation phase to withdraw from the program. No student may remain in the program after failing two dissertation attempts.

Students can only be certified for the award of the PhD degree after their Doctoral Committee and the Dean of the College of Fine Arts have signed off on their dissertation (certifying passing both the oral and written parts) and an approved final copy of their dissertation (hard copy and a soft copy on CD) has been made available for public dissemination through the Carnegie Mellon University Library and the University Microfilms Incorporated.

3.3.5 Doctoral Candidacy Policies for All But Dissertation (ABD)

The School of Architecture adopts the general University's policies pertaining to ABD status, with specific declarations relevant to the School. (www.cmu.edu/policies/documents/ABD.html. Approved February 28, 1991. Modified May 8, 1995). All references to department will apply to the School.

The university has a series of policies that cover: a definition of ABD status, time limits on doctoral candidacy status, a definition of in residence and in absentia status for ABD candidates and the tuition charged for candidates in residence and candidates in absentia.

Each student to whom this exception applies shall continue to be governed by the policies of his/her department/college at the time of matriculation, unless the student wishes to opt for the current set of policies. Any student so doing will be subject to all the rules and conditions of these policies from the beginning of the semester of this option; any charges incurred prior to that date will be applicable. Under extraordinary circumstances, appeals of these charges may be made in writing to Enrollment Services.

3.3.5.1. ABD Status

After the completion of Phase I of the PhD Program in the School of Architecture, doctoral candidates shall be regarded as All But Dissertation (ABD). Achieving ABD status is verified by the School of Architecture and ABD status must be certified by the School in writing to Enrollment Services.

3.3.5.1.1. Time Limit on Doctoral Candidacy Status

Once students achieve ABD status, their doctoral degree candidacy shall continue for a maximum of seven full academic years, unless terminated earlier by conferral of the degree, by academic or administrative action, or by a lapse of candidacy due to more restrictive department or college policy. At the expiration of the seven-year period, candidacy status shall lapse. Once candidacy has lapsed, the person may resume work toward a doctoral degree only if newly admitted to a currently offered doctoral degree program under criteria determined by that program.

Under extraordinary circumstances, such as military or public service, family or parental leave, or temporary disability, a school or college may, upon the relevant department's recommendation and with the written approval of the dean, defer the lapse of candidacy status for a period commensurate with the duration of that interruption.

3.3.5.1.2. In Residence Versus In Absentia

Once students achieve ABD status, they must choose whether to complete their dissertation in residence, or in absentia under the current policies.

A candidate in absentia must meet the specific criteria noted below. No candidate in absentia will be verified by the university as a "student" for immigration or loan purposes. ("Non resident alien" students on J1 or F1 visas who become ABD must continue to follow US Citizenship and Immigration Services (USCIS) regulations.) The intent of INS regulations is that the student continues to pursue completion of the degree on a full-time basis under the jurisdiction of the university that will award the degree. In general, foreign students who enter ABD status are advised to remain in residence while they complete their degree. (Questions about ABD status and visa requirements should be addressed to the Office of International Education.)

When a candidate decides whether to be ABD in residence or ABD in absence, he/she must complete a Doctoral Candidate Contractual Agreement form available from their academic department. The Agreement Form declares the candidate's choice of following the current or old policy, if the old policy is an option, as well as whether the candidate wishes to be designated as in residence or in absentia. The Contractual Agreement form may be used several times; however, a candidate who has chosen to be in absentia must return for at least one semester of full-time status before qualifying for final semester tuition benefits for ABD candidates in residence.

3.3.5.2 ABD Candidates In Residence

ABD candidates in residence maintain student status and all consequent student privileges and must be enrolled for **36 units** required by the policy of the School of Architecture.

3.3.5.2.1. Final Semester Tuition for ABD Candidates In Residence

ABD candidates in residence shall, in the semester in which all degree requirements are completed, pay their college's full-time tuition pro-rated by the quarter of the semester, whether used fully or partially. Payment will be waived if all degree requirements are completed by the end of the first full month of the semester in which the degree is completed (for the fall semester, September 30; for the spring semester, January 31; for the summer session, June 30). Doctoral candidates' departments shall notify Enrollment Services of the appropriate completion date. ABD candidates in residence who complete their final semester during the summer term will be assessed tuition according to the number of units registered for and, if necessary, pro-rated according to the same guidelines.

3.3.5.3 ABD Candidates In Absentia

An ABD doctoral candidate may, upon departmental certification thereof, be regarded as being in absentia when, and so long as, the following three conditions concur:

- The candidate has been enrolled as a full-time PhD student at Carnegie Mellon University for at least two academic years as required by the School of Architecture. Part-time enrollment may, at the department's discretion, be counted pro-rata toward one year of this total.
- The candidate does not receive a stipend predicated on his or her status as a graduate student or doctoral candidate and paid by or administered by the university whether teaching or research assistantship, scholarship or fellowship.
- The student does not require substantial use of university resources. Departmental certification of this condition shall be subject to guidelines established by the school or college.

According to university guidelines, candidates in absentia may:

- Obtain university health insurance.
- Use university libraries.
- Use the book and computer stores.
- Use computing facilities only for department communications and for thesis text preparation.
- Enter university buildings for faculty/student consultations.
- Become regular university employees.

They may not:

- Be employed with a graduate student stipend.
- Buy parking permits.
- Use the gymnasium.
- Use Dining Service meal plans.
- Use Campus Account services.
- Live in university housing.
- Use University Health Services.

3.3.5.3.1 Tuition/Fee Effects of In Absentia Status Including Final Semester

While an ABD candidate is in absentia, no formal enrollment or payment shall be required with one exception: An ABD candidate who is in absentia shall be required to pay five units of graduate study, or greater if required by college policy, based on their current school/college's tuition before the degree is conferred. Under extraordinary circumstances, an exception may be granted by petition. A petition should be made to the student's school/college's associate dean or dean, who will forward it for consideration by Enrollment Services.

3.3.5.3.2 Employment of ABD Candidates In Absentia

As noted above, ABD candidates in absentia are extended only minimum access to university resources: "The candidate does not receive a stipend predicated on his/her status as a graduate student or doctoral candidate and paid by or administered by the university whether for teaching or research assistantship, scholarship, or fellowship." An ABD candidate in absentia cannot be hired for work directly related to completing his/her dissertation and/or make substantial use of resources for work toward the doctorate as noted above. In order to be in compliance with these policies, the university's employment policies and the Internal Revenue Service, an ABD candidate in residence may only be hired for university employment as a regular employee and through the regular employment process.

4. Standards, Policies and Practices

Unless otherwise stated, and where specific and detailed declarations are provided by the School of Architecture, the PhD Program in the School adopts the standards, policies and practices stated in the prevailing Carnegie Mellon University Graduate Student Handbook, pertaining to academic advising, academic resources, curricular and enrolment issues, and academic rights and responsibilities.

4.1 Program Administration

The PhD program is administered by both the Graduate Program Committee and the PhD Program Committee as defined in Section 2 above. Their roles and responsibilities are generally described in Section 2 and specifically described in relevant sub-sections under Section 3.

4.2 Academic Advising

A PhD student is guided throughout his/her academic study in the School by an Advisory Committee. The composition, definitions, roles and responsibilities are stated in the relevant sub-sections under Section 3.

Students may also seek advice from the Director of The Graduate Program, the Head of School and the other graduate program faculty as well as the Graduate Program Administrative Coordinator.

4.3 Academic Resources

The University offers a range of academic resources which are listed in the University Graduate Student Handbook. These include Academic and Professional Development Seminars and Workshops, Teaching Support, intercultural communication, computing services and libraries.

4.4 Curricula and Enrolment Information

The University Graduate Handbook provides information pertaining to:

- Standards for Academic and Creative Life
- Privacy Rights of Students
- Academic Standards and Actions
- Cheating and Plagiarism, and
- Academic Disciplinary Actions Overview.

4.4.1 Specific Declarations in the School of Architecture

4.4.1.1 Privacy Rights of Students - Student Reports and Records

Every student at Carnegie Mellon University is protected by FERPA (Family Educational Rights and Privacy Act; http://www.ed.gov/policy/gen/guid/fpco/ferpa/). An academic record file is created and maintained by the Graduate Program Administration when a student first enrolls in the PhD Program. The following documents will be maintained in the file:

- Application and all supporting documentation, and admission review forms completed by relevant members of the Graduate Program Committee
- Game Plan submitted by the student
- Qualifying Examination Documentation – examination questions and responses, the examination outcome reported by the Qualifying Examination Panel
- Thesis Proposal Documentation – proposal document, result outcome of the thesis proposal reported by the Doctoral Committee
- Dissertation Documentation – copy of the final dissertation, result outcome of the dissertation defense reported by the Doctoral Committee
- Any academic action reporting by the Graduate Committee and the Doctoral Committee – letters of commendation, warning, probation.
- Any formal report of academic progress and performance by the Advisory Committee and Doctoral Committee
- Documentation pertaining to the enrolment status of the student – provided by the School's graduate program administration
- Documentation on financial support, e.g., Work Logs, submitted by the student, award of scholarships, fellowships, etc.

Access and review of the student's records by students and university personnel are governed by the Pubic Law 93-380 "The General Education Provisions Act" and other relevant policies of Carnegie Mellon, as stated in the University Graduate Student Handbook.

4.4.1.2 Academic Actions and Standards

4.4.1.2.1 Academic Integrity and Disciplinary Actions

All PhD students are strongly recommended to read the University Graduate Student Handbook with regard to *Cheating and Plagiarism* and *Academic Disciplinary Actions Overview for Graduate Students* well as the University policy web page at http://www.cmu.edu/policies/documents/Cheating.html. The School of Architecture adopts all definitions and practices as stipulated, including:

Statute of Limitation
Confidentiality
Procedures
Initial Review
Decision and Action(s)
Reporting of Initial Action(s)
Second-level Review and Action(s)

4.4.1.2.2 Grading Policy

Unless otherwise specifically declared, the School of Architecture adopts the University policy which offers details concerning university grading principles for students taking courses (http://www.cmu.edu/policies/documents/Grades.html). This policy covers the specifics of Assigning and Changing Grades (including Final and Mid-Semester grades, Incompletes and Conditional Failures), Grading Options (Audit and Pass/Fail), Drop/Withdrawals, Course Repeats, and defines the undergraduate and graduate Grading Standards.

Questions about grading for a specific course should be addressed to the instructor of the course in question. Graduate students with questions about Pass/Fail and Drop/Withdrawal should contact their individual Principal Advisor and Graduate Program Director.

Appeals for an exception to any grading policy may be made by the Dean's Office of the College of Fine Arts.

The Graduate student Grading Standard is as follows (as of Fall 1995):

Grading	Quality Points	
A+	4.33	
A	4.0	
A-	3.67	
B+	3.33	
B	3.0	Minimum for good standing
B-	2.67	
C+	2.33	
C	2.0	Minimum to be counted towards degree requirements
C-	1.67	
D+	1.33	
D	1.0	
R	0.0	Failure
X	0.0	Conditional failure
S	Non-factorable	Satisfactory
P	Non-factorable	Passing
N	Non-factorable	Not Passing
O	Non-factorable	Audit
W	Non-factorable	Withdrawal
I	Non-factorable	Incomplete
AD	Non-factorable	Credit granted for work

		completed at another institution or by examination credit

4.4.1.2.3 Progress Review

The PhD Program Committee reviews the academic progress of all PhD students (including those in ABD status) at the end of each semester, after the semester grades are issued and prior to the School's grades meeting. The purpose of this meeting is to review and monitor the progress of PhD students. In this meeting, the Chair will present a written progress report to the PhD Program Committee along with oral reports by each Principal Advisor of each PhD student.

Students are expected to maintain a minimum QPA of 3.0 throughout their course of study. In view of their performance, any academic actions or recommendations developed are transmitted, in writing, to students and to the Head of the School by the PhD Program Committee, after the Graduate Program Grades Meeting held at the end of each semester.

In addition to the Grading Practices and Academic Actions stipulated by the University and College of Fine Arts, the Graduate Program in School of Architecture has implemented the following School level actions:

COMMENDATION

For achieving a quality point average of 4.0 in any semester while carrying a full academic load of a minimum of 36 units AND comprising a minimum of four courses.

WARNING

For achieving a grade below a minimum of B- in a course related to the program concentration OR a minimum grade of C in any course taken in any semester while still maintaining a minimum overall quality point average of 3.0.

For achieving a grade below a minimum of B- in a course related to the program concentration OR a minimum grade of C in any course taken in any semester AND does not maintain a minimum overall quality point average of 3.0.

PROBATION

For repeated "WARNING" performance defined above in a consecutive semester after WARNING has been previously issued, AND when the Graduate Program Committee determines that there is still a possibility for the student to improve his/her performance to meet requirements for graduation.

DROP FROM PROGRAM

For repeated "WARNING" performance defined above in a consecutive semester after WARNING or PROBATION has been previously issued, AND when the Graduate Program Committee determines it is unlikely that the student will be able to meet the requirements for graduation.

4.5 Academic Rights and Responsibilities

Standard information pertaining to academic rights and responsibilities listed in the University Graduate Student Handbook cover the following:

Degree attainment: achievement, timeline and format of requirements

Financial Support
Dissertation and Theses
Graduate Student Concerns and Grievances
All But Dissertation Policy
Intellectual Property Policy
Research
Policy for Handling Alleged Misconduct in Research

4.5.1 Specific Declarations in the School of Architecture

4.5.1.1 Degree attainment and support service

Specific detailed declarations pertaining to degree attainment, dissertation and theses, All But Dissertation Policy, and support services have been made in Section 3 of this School of Architecture Graduate Student Handbook.

4.5.1.2. Student Rights – Concerns and Grievances

The School of Architecture adopts the University's practices regarding student rights. Students who believe that they have been treated inappropriately are encouraged to raise their concern(s) with their advisor, department head or other designated people in their department, college or central administration. For further information about procedures that graduate students can pursue when addressing concerns and grievances, go to www.cmu.edu/adm/gpo/concerns (Graduate Student Concerns: Advocates and Other Resources).

4.5.1.3 "Grandfather" Policy

The School maintains a "grandfather" policy that assures that students can graduate under the policies in effect at the time of matriculation or choose to change if/as new policies arise.

4.5.1.4 Intellectual Property Policy, Research and Policy for Handling Alleged Misconduct in Research

The School adopts the University's policies pertaining to Intellectual Property (www.cmu.edu/policies/documents/IntellProp.html), Restricted Research (www.cmu.edu/policies/documents/RestrictResearch.html), and Handling of Alleged Misconduct in Research (www.cmu.edu/policies/documents/ResrchMisc.html).

4.5.1.5 Financial Obligations and Support

The tuition charges for each academic year, as published by the University, only apply to the Fall and Spring semesters. Summer tuition, whenever applicable, are additionally charged and are normally based on number of academic units taken. The University also publishes estimated cost of living for a graduate student each year.

The School of Architecture does consider application for financial support. However, the award of graduate student support is dependent on several factors:

- Acceptance into one of the PhD programs in the School.
- Needs of the School for Teaching Assistants in undergraduate courses.
- Funds available to the School for various research projects and/or programs from within the University or from external sources.
- Other budgetary resources of the School which may be allocated for graduate student support (only for Fall and Spring semesters).

Subject to the above factors, financial support is normally provided on a semester to semester basis, covering the Fall and Spring semesters, but every effort will be made to provide continuity of support. Summer support, if available, must be separately negotiated. Continuation of financial support is reviewed each semester by the

faculty providing the support and the PhD Program Committee, and is dependent on availability of funding, the academic standing of the student as well as the work performance in the research project(s) and/or teaching assistance.

4.5.1.5.1 Research Assistantship (RA) and Teaching Assistantship (TA) Work Commitment

A PhD student who is fully funded (tuition and stipend) by the School during the Fall or Spring semesters is expected to contribute 20 hours of work per week. The work may involve serving as Research Assistant for project(s), or Teaching Assistant, or both. The nature of work and responsibilities will vary depending on the project(s) and courses.

The School has no obligation to provide RA-ships or TA-ships for self-supported PhD students. Should these students be appointed as RA or TA, monetarily compensation will be provided based on the hourly rate established by the University, and up to 20 hours per week, unless otherwise agreed with the faculty providing the support and approved by the PhD Program Committee.

Every effort will be made by the faculty to support and mentor those PhD students who have an interest in an academic career and to give them increasing teaching responsibilities as the ability of the student develops. For PhD students willing to and capable of being course instructors, teaching a course is equivalent to serving as a TA for two courses. In this case, the students will be supervised by a faculty advisor or mentor.

As a default, summer stipend support, if available, remains the same as the regular semester and hours expected remain the same (i.e., 20 hours per week). The principle is that students will continue to work on their own PhD research work during summer. Any variation to this may be negotiated between the student and the Principal Advisor and duly recorded in the Graduate Student Work Log.

Only for students engaged in full 3 months of RA work in summer, they can be given 2 weeks off (paid). Otherwise, the student will only be paid for their actual working time.

4.5.1.5.2 Graduate Student Work Log

Every PhD student, in consultation with his/her Principal Advisor, is responsible for completing a School of Architecture Graduate Student Work Log which clearly indicates the percentage of time devoted to each research project/course each month (100% represents 4 weeks x 20 hours per week). See Appendix 3.

The Work Log must be completed, signed by the respective responsible faculty and submitted to the Graduate Program Admin Coordinator by:

- the first week of the Fall Semester (for the Fall semester support)
- last week of the Fall semester (for the following Spring semester support)
- last week of the Spring semester (for the following Summer semester support, if applicable).

It is the responsibility of the student to adhere strictly to the deadlines to ensure timely payment to the student.

International students are reminded that they must comply with United States Citizenship and Immigration Services (USCIS) policies pertaining to their visa status. The Office of International Education is a resource for international students on this issue.

4.5.1.6 Graduate Student Conference Fund

The School of Architecture encourages students to advance their own academic, professional and career development through the publication and presentation of papers and/or attendance at conferences, seminars, symposia and workshops. A limited funding budget is available each year through the School of Architecture and

is intended to offset the costs associated with the presentation of papers, posters, research products or creative work. Applications are considered on a first-come-first-serve basis, subject to available fund balance.

Details on policies and application procedures are given in Appendix 4.

4.5.1.7 Student Leave and Return Policies

The School of Architecture adopts the University's student leave and return policies. For more Student Leave and Return information, refer to www.cmu.edu/policies/documents/StLeave.html and www.cmu.edu/policies/documents/StReturns.html respectively.

4.5.1.8 Student Suspension and Required Withdraw

The School of Architecture adopts the University's policy on student suspension and required withdrawal. For more information, refer to www.cmu.edu/policies/documents/Suspension.html

4.5.1.9 Outside Employment

Outside employment is discouraged during the period of full-time graduate studies except where specified by any given program. When employment in an outside organization is obtained, the student's Principal Advisor and the Head of the School must be notified in writing.

International students are reminded that they must adhere to United States Citizenship and Immigration Services (USCIS) policies governing their stay in the USA.

4.5.1.10 Visiting Students, Scholars and Fellows

Visiting students, scholars and fellows supported by outside funding sources who wish to undertake post-graduate or non-matriculating academic work at the School of Architecture may do so at the discretion of the Head of the School, and may be required to provide an amount equal to the current graduate student tuition to the School on a semester by semester basis.

4.5.1.11 University Information on Finances and Financial Aids

The "Finances and Financial Aid" section in University Graduate Student Handbook provides detailed and useful information regarding the following:

Fellowship Resource Advising Center
Graduate Student Transition Loans
Emergency Student Loans
Graduate Professional Development Funding
Research and Teaching Assistantships
Student Employment
Summer Stipend Payment Options
Tax Status of Graduate Student Awards

May 4, 2007

Game Plan

Ph.D. (Program Name)

STUDENT NAME

School of Architecture
College of Fine Arts
Carnegie Mellon University

Date

Advisory Committee

Chair:

Professor's Name
School of Architecture, Carnegie Mellon University

Members:

Professor's Name
Department Name, University Name

Professor's Name
Department Name, University Name

Completed Courses and Credits
(Excluding Independent Studies)

Date	Course	Title	Credits	Grade
	15462	COMPUTER GRAPHICS	12.00	
	15211	FUND DATA STRUCT ALG	12.00	
	15113	SYSTEMS SKILLS IN C	5.00	
	15100	INTRO INTERM PRGMNG	10.00	
	21259	CALCULUS IN 3-D	9.00	
	21122	INTGR DIFF EQUA APPX	10.00	
	21127	CONCEPTS OF MATHMTCS	9.00	
	48756	APPLICATIONS IN CAD	12.00	
	48768	SFTWR REQUIREMNT APP	6.00	
	48767	SFTWR REQUIREMNT MOD	6.00	
	48721	BLDG CONTRL DIAGNSTC	12.00	
	48722	BLDNG PERFMNC MODLNG	12.00	
	48723	PERF ADV BLDNG SYSTM	9.00	
	48711	RSRCH MODL METH ARCH	9.00	
	48726	ACOUSTCS & LIGHTING	9.00	
	48725	BUILDING ECONOMICS	9.00	
		Total	**151**	
		Cumulative QPA		

Courses in Progress
(Excluding Independent Studies)

Date	Course	Title	Credits	Grade
	48749	SPECIAL TOPICS IN CAD	9.0	
	48760	ADV COMPTR MODELING	9.0	

Independent Studies

Date	Course	Title	Credits	Grade
	48XXX	INDEPENDENT STUDY	9.0	
	48XXX	INDEPENDENT STUDY	9.0	

Milestones

Milestone	Date
Qualifying Exam	
Thesis Proposal	
Thesis Defense	

Publications by Student

List all publications here.

Thesis Study Area

Introduction

Contemporary advances in computational technology and techniques have produced means of accurately predicting the performance of lighting that are affordable in terms of time and cost, factors that have hitherto been identified as limiting the application of computational simulations in architectural design. In terms the design of computational tools used in the building industry, research has shown that most contemporary tools do not provide adequate support for design processes.

By applying state-of-the-art computational techniques, together with assessments of the design process and corresponding informational demands, it is postulated that lighting simulation tools can be designed to assist architects in design. Though specific to the lighting domain, the proposed simulation tool demonstrates the principles of design support tools by providing accurate visualizations within time and resource constraints of architectural practice, adopts relevant metrics of performance to provide operative information succinct to informational demands of design decisions, complements the adaptive-iterative nature of investigative design, and aid design synthesis by allowing greater coupling and flexibility between various design activities.

Nature of Design

The areas of study include identifying the conditions and constraints of design in the context of architectural practice. Research has identified the design process to be adaptive-iterative, where problems are often ill-defined and designers adopt decomposing strategies together with explicit problem paradigms to manage complexity. This hypothesis of reducing cognitive cost to handle a multitude of possibilities in complex problems allow insight into the seemingly disparate design strategies of iterative partial problem-solution conjectures as well as insistence on maintaining singular solution concepts as long as possible, in spite of contradictions encountered. With regards to design synthesis, it has also been shown that there is significant correlation between novel design decisions and the transition between drawing, examining and thinking.

This understanding and further examination of design processes can suggest a new way of designing simulation tools. Rather than focusing the user on details that enables a simulation to be conducted, the tool should alleviate such demands and allow quick successions between drawing and examining. This can be achieved by identifying the relevant metrics of performance and delivering operative information quickly. Features that address the management and comparisons between design alternatives can complement the comparative nature of iterative search in design. The fundamental strategy is thus one that reduces the overheads in enabling examinations in the tripartite description of design activities referenced earlier.

Constraints of Practice

The second area of study attempts to allow the development of a useful tool by examining the conditions and constraints in architectural practices. There are general categories of design tasks throughout an architectural project, each with corresponding information requirements and resource constraints. This suggests the need for an adaptive tool or methods to manage the balance between accuracy and resource. Highly accurate models and algorithms may require excessive amounts of parameter definitions, computing resource and time. By identifying the range of practice conditions, we can establish levels of detail and accuracy at which the tool should operate at. Appropriate techniques such as automated statistical approximations, model and algorithmic simplifications or recycling solutions as estimates can be applied to address the varying objectives and resource constraints.

Other practical concerns affecting the deployment of simulation tools in architectural practice include how easy it is to learn and use the tool, how well the tool works with other popular software and protocols as well as the level of confidence users have of the simulation results with respect to using them in a professional context. Such concerns point to a need to address issues of usability, interoperability and validations.

Performance-Based Architecture

It is generally accepted that contemporary architecture design has become increasing complex due to both a growing sophistication in consumer demand as well as advancements in scientific knowledge. The performance-based mandate proposes consideration of design from holistic standpoints, beyond traditional disciplinary or domain partitions, by focusing on the overall performance of the design. Following this agenda, simulation tools should complement the focus on achieving comfortable and enjoyable environments, rather than the established and often prescriptive list of domain parameters, often encapsulated in prescriptive building regulations. While a comprehensive demonstration of such performance-based approach necessarily include at least a multi-domain tool, a similar shift in approach can still be illustrated within a single domain.

The concept of a bi-directional feature could allow users to focus on the objective rather than specific parameters. This feature directs user effort in defining performance criteria and computation to augment the identification of possibly complex means in meeting the criteria. By doing so, the tool supports design as a search more than design as an optimization of parameters.

Design Support Environment Framework

This section presents a rough outline of a lighting simulation environment for architecture design support. While in no way comprehensive of all the considerations pertinent to a design support tool, this outline illustrates the main issues to be discussed in the thesis.

There has been much debate over how software tools should be deployed, the main distinction between local versus network deployments. While this decision can be separate from the development of the core functionalities of software and allocated to a later stage, the considerations for effective use of limited computational resources, ease of management and features supporting distributed and collaborative use should be issues pertinent to the design of the tool.

Given that computational simulations are but part of a much larger design process, it is important to integrate it with other involved processes, thus the concept of a design support environment. This implies the use of common or similar semantics and protocols, allowing easy and efficient transitions between the many activities. Absent in contemporary situations, efforts such as middle-ware, interoperable data formats or consistent software user interfaces exist as stop-gap measures. While ideally the proposed simulation features should be designed as a package that can interface any modeling platform via industry standard data protocols, practical constraints may limit the feasibility of doing so. Nevertheless, the tool should capitalize on industry standards to reduce overheads, ease integration and provide a consistent working environment. This includes user interfaces, models of simulation processes and popular data format support.

Following the identification of suitable performance metrics such as illuminance distribution, type of illuminance (diffused vs. direct), luminance ratios (contrast), glare indices and extent of exterior views, the tool should adopt technical approaches based upon comprehensive fundamental principles that would give relevance to the results throughout the project. Excessive abstraction and rule-of-thumb methods should be avoided. The photon mapping method (Jenson 2001) holds particular promise.

To better complement the needs and constraints of practice, the tool should allow use at different levels of granularity, or level of detail (LOD). This might be achieved by offering different sets of user interfaces that automate and reveal parameters selectively, in response to particular needs at each design phase, without compromising the fundamental principles approach mentioned earlier. Since the general photon mapping is time and resource intensive, different techniques would have to be applied to achieve the desired performance of the tool. We can broadly categorize conditions that the tool would have to satisfy as: (1) quick investigations with similar global parameters, (2) detailed comparisons among limited alternatives, (3) accurate analysis of a particular design. Generally, there will be more time allocated to the respective categories but modified by the type of design decision, if it is a high or low level design task. Higher level tasks such as planning usually enjoy more resources when compared to lower level tasks such as the determining the size of openings.

Given the categorizations, we might be able to apply specific techniques to moderate the resources required to implement the otherwise resource and specification intensive fundamental principles approach. For example, in high level tasks involving multiple quick investigations such as comparing massing strategies appropriate for the architectural program, a significant portion of the required parameters can be specified automatically by statistical means, thus reducing user effort. Since contextual lighting conditions would be similar between the alternatives, part of the lighting solutions can be reused, thus reducing the computational task and increasing the speed at which solutions are presented. By maintaining the same technical approach throughout various LOD, the results would remain relevant and also ease computation. For example, when a particular scheme is selected for detailed analysis, it might be possible that only certain components (such as the indirect lighting) have to be updated, or simply refined (additional iterations to refine the specular effects).

One of the challenges in designing the bi-directional feature is addressing the problem of ambiguity. Given a particular condition and a desired state, there may be a multitude of ways to achieve that state. For example, to increase the daylight availability in a partially designed space, any or a combination of alterations to the many variables including window location, size, shape and material of sunshade and interior reflectance may satisfy the objective. While techniques such as using preference-based weightings and explicit metrics such as construction cost or energy consumption may be useful, these approaches often contradict the explorative nature of design in searching for novel solutions. This consideration presents a dilemma; while techniques such as using empirical surveys to anticipate search behavior or the mentioned weighted metrics are effective at structuring, managing and speeding up complex search, they may undermine the value of the search itself in terms of design exploration. Care has to be taken in providing abstractions and subsequent metrics at appropriate levels so as to address both concerns.

Effectiveness in augmenting design is difficult to ascertain or quantify. Empirical testing and user surveys may be used to validate the hypothesis that a lighting simulation tool can be used to help develop designs.

Storyboard

Use Case 1 – A low-level design decision on aperture sizing

Designer specifies the location, and begins modeling the space, adding a window and light-shelf to a wall. He selects illumination distribution visualization and a false-color mapping of interior workplane illumination is superimposed on the model. The tool is able to simulate inter-reflections of the light-shelf accurately. The designer notices a glare problem. He manipulates the parameters of the window and the light-shelf while the tool presents the corresponding effects in real-time. The designer decides to make the highlight into a caustic feature on another wall rather than avoiding it. He specifies the new position of the caustic and preferences on which parameters to be affected. The tool presents alternatives that would achieve the desired effect.

Use Case 2 – A high-level design decision on form

Designer specifies the location and begins modeling the building form. Lighting effects including shading, inter-reflections specular reflections are presented in real-time. Designer is unsatisfied with the shading on a façade and unable to modify the façade to achieve his intentions. He selects lighting contribution visualization. A vector field representing the lighting contribution on that façade is superimposed on the model. He modifies several parts of the building to achieve what he wants.

Use Case 3 – Design Synthesis

Designer wishes to design external sunshades. He studies the interior illumination, specifies acceptable ranges and confirms his choices after viewing high quality renderings of the space at such ranges. He specifies a volume outside the window as the physical bounds of the sunshade. The tool presents recommendations on transparency and reflectivity in a 3-D grid within the volume which is updated as the designer begins to shape the sunshade. The designer eventually draws a sunshade that is too small causing the specified interior illumination to be exceeded, and the tool suggests changes to the window dimensions. The designer rejects the suggestion. The tool suggests a darker ceiling or carpet.

Carnegie Mellon University School of Architecture

GRADUATE STUDENT WORK LOG

Name of Student _____ Program _____

Email _____ Year First Enrolled _____

☐ Qualifying Exam Date _____

☐ ProposalDate _____

	Fall 20__				Spring 20__					Summer 20__			Sign
Rese arch Project Name (RA)	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Course No. and Title (TA)	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Unless otherwise indicated, 100% represents 20 hours per week / 80 hours per month of work.

School of Architecture | Carnegie Mellon University
Graduate Student Conference Travel Application

Instructions: Please apply at least four weeks before the date of the conference. Fill out all relevant parts of this application. Ask your faculty advisor or sponsor whether he or she can provide any financial support for your trip, and indicate this below. See whether support is available from the conference or organization. Apply for University GSA funding in the quarterly lottery.

Name (student)_____ Graduate Program _____ Date_____

Conference information
Name of Conference_____
Conference Location _____ Conference Dates _____
Is the conference peer reviewed? _____ Acceptance Rate if available _____

Are conference proceedings published?
(Check all that apply): ___Yes, on paper; ___ Yes, on the Web __ Yes, on CDROM ___ No.

Check one: __ I am sole author
__ I am lead author with co-authors
__ I am co-author but not lead author
__ I have no paper at this conference but wish to attend.

My/our paper is titled _____
The authors of this paper are _____
_____
Check one: ___ I am presenting this paper ___ a co-author is presenting (who?)

Travel Expense Estimate

Conference Registration Fee	_____	(early registration, student rate, if available)
Transportation	_____	
Lodging	_____	
Other cost (specify)	_____	
TOTAL EXPENSE	_____	

Sponsorship
Please note that School of Architecture graduate travel funds are quite limited; that is why we ask you to make every effort to find other sponsors to share the financial burden of your trip.

Faculty Research Advisor or Sponsor _____
Faculty Sponsor's Signature _____
Amount of funding faculty sponsor will provide (write "zero" if none). _____
(Faculty: indicate account name or number to charge for funding this travel): _____

Check all that apply:
____ The conference will provide partial sponsorship (reduced registration, travel assistance, student volunteer, etc.).
____ I have requested sponsorship from the conference (explain):
____ No sponsorship is available from the conference.

____ I have been granted $_____ in travel funds from the University's GSA travel fund lottery for this trip.
____ My GSA travel lottery application was declined on (date) _____.
____ I plan to apply for GSA support for this trip in the next lottery.

Approval: SoA graduate program director _____
Sponsorship from School of Architecture granted: $_____ Date _____

Signatures needed for approval: Your faculty sponsor or advisor, Graduate program director.
Include a copy of your paper with the application • Include a copy of the conference program.

School of Architecture | Carnegie Mellon University
Graduate Student Conference Travel Fund

The School of Architecture encourages students to advance their own academic, professional and caree through the publication and presentation of papers and/or attendance at conferences, seminars, symposi Funds are available through the School of Architecture and are intended to offset the travel costs associa presentation of papers, posters, research products or creative work. All graduate students currently regis School of Architecture are eligible.

General Policy

Because school funds are limited, we will only accept travel fund request from students who have pursue opportunities and resources first:

- Ask your advisor or research sponsor first. Your research contract or advisor's discretionary ac your primary support for travel.
- Investigate fellowships, travel funds or student volunteer opportunities offered by the conferenc and/or sponsors and apply for them

Application Process

- Discuss your travel interests and plans with your faculty advisor/research sponsor. Their knowl of your travel plans are required.
- Exhaust the funding opportunities described above.
- Obtain a Graduate Student Conference Travel Fund Application form from the Graduate Progra 410 or download from the Graduate Program website http://www.arc.cmu.edu/cmu/programs/grad_progs/index.jsp
- The Application must be filled out in its entirety. All requested information and signatures are re application will be considered.
- Submit the completed form with a copy of your paper and a copy of the conference program to Covington-Davis in MMCH 410.
- Applications will be reviewed by the Director of the Graduate Program and an appointed gradu You will be notified as soon as possible of the travel support amount approved.
- Keep all receipts during travel and write on the receipt the precise reason for the expenditure. \ from the conference, submit all original receipts to Diana Martin in CFA 201 for reimbursement.

Guidelines for School of Architecture Funding

$150	Domestic travel for conference attendance
$250	Domestic travel for conference attendance and presentation of co-authored work
$450	Domestic travel for conference attendance and presentation of authored work
$300	International travel for conference attendance
$600	International travel for conference attendance and presentation of co-authored work
$900	International travel for conference attendance and presentation of authored work

A student is eligible to receive only one conference travel fund award per academic year. Reimbursemen travel and related conference expenses such as but not limited to: registration fees, accommodation and student is required to present the paper at a School of Architecture Colloquium session before reimburse

Graduate Student Assembly (GSA) Graduate Conference Funding

Students can also apply to the Graduate Student Assembly (GSA) Graduate Conference Funding. It prov enable students to 1) make presentations at key conferences/exhibitions in their fields or 2) simply attenc learn about the broader field of study to which they belong. A letter from the applicant's advisor is require whether there are department- and college-level options for alternative funding. Graduate students may r than one Conference Funding award per academic year. For detailed information on the application and go to http://www.cmu.edu/adm/gpo/graduates/gsa.html.

Appendix F _ Studio Course Descriptions

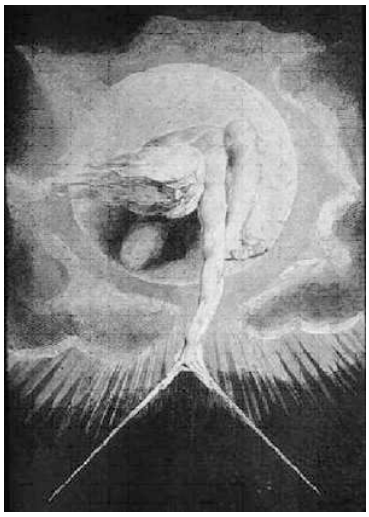
Architecture, Design & Composition Studio

Coordinator: Kai Gutschow
Email: gutschow@andrew.cmu.edu
Off. Hr: M/F 12:00-1:00pm & by appt. in MM202

Fall 2006, CMU, Arch #48-200, M/W/F 1:30-4:20
Class Website: www.andrew.cmu.edu/course/48-200

(8/23/06)

F'06 Studio Description

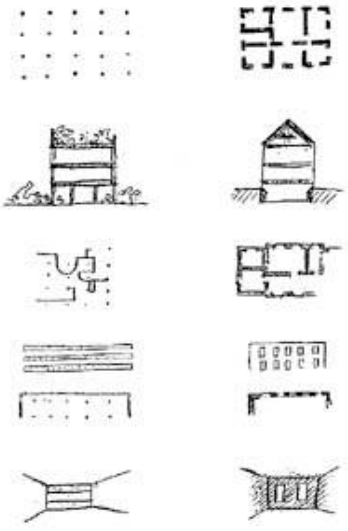


COMPOSITION: "the planned arrangement of parts to form a whole." Architects compose concepts, spaces, contexts, functions, experiences, elements, materials, drawings and much more. See also: synthesis, constitution, disposition, formation, assembly. Related to "composition" in music, writing, film, typography, painting, and materials...
CONCEPT: "A concept brings together ideas, precepts, and affects that create experiential forms."
CONTEXT: "the interrelated circumstances, objects, or conditions in which something exists or occurs," physically and intellectually. See also environment and the connection or coherence between parts.

OVERVIEW: Studio 48-200 is an introduction to architectural *composition* stressing *concept* generation and the development of a rich design *process* to create evocative spatial *experiences*. This studio will start with the premise that *architecture is an art*. As an art, architecture necessarily involves both *ideas* and *craft*. We will work to develop meaningful ideas that are made manifest through fundamental elements of architecture. We seek to understand compositional principles which characterize the buildings of the past and present, and apply them with intent and significance in the design studio. By focusing both on challenging ideas and profound details, we seek to explore architecture's potential for creating poetic expressions, appropriate shelter, or exalted experiences, as well as its ability to embody ideas and impart meaning to the world around us.

BUILDING on the 1st year studios that explored "Methods & Transformations in Form & Space," the 2nd year will investigate in greater depth the complexity and integrated nature of the architectural object and design process. We will explore the *artistic, conceptual, poetic, creative, and experiential* side of architecture as a way of developing a rigorous process of architectural form-making. By developing methods, parameters, and alternatives of form-making we will explore issues such as expression, perception, and representation. Each of the five studios will approach the theme of design and composition differently, but all students are expected to work together and explore communally a broad spectrum of design strategies at every opportunity.

GOALS: Each student should develop a passion for thinking about, and making architecture. In 2nd year studio that means focusing on Concept, Composition, and Context. In addition, each should work to perfect the tools and methods enabling them to engage on a high intellectual and creative level with any scale or type of architectural design project. The focus is on 6 areas: 1) Passionate Attitude; 2) Verbal Acuity; 3) Drawing Clarity and Power: 4) Robust Models; 5) Conceptual Clarity with Richness of Detail; 6) Theory: Take a Stance! The personal and complex nature of architectural design demands that each student take responsibility for shaping their own progress, passion, and particular approach.

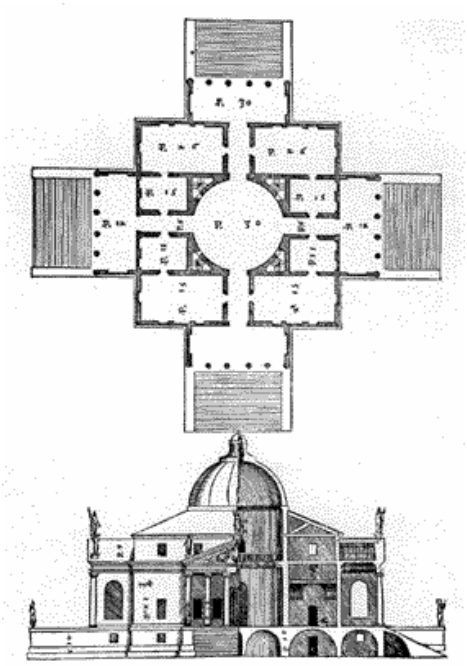


PROJECTS: The semester will consist of three projects.
Project 1: an annex to the Frick Fine Art Building on the Pitt campus, common to all studios.
Project 2: a "building analysis" project to be run simultaneously with design projects, unique to each studio
Project 3: a small residence for one person on a natural site that is "intellectually challenging" and "experientially rich," unique to each studio.

architecture: design+composition studio

studio calisti
CMU, Arch 48-200
Fall 2006, MWF 1:30-4:20
lcalisti@andrew.cmu.edu

A great building must begin with the unmeasurable, must go through measurable means when it is being designed and in the end must be unmeasurable. *-Louis Kahn*



statement:

Architecture combines an intellectual assertion with real material to envelope space. However, developing an understanding of what constitutes an architectural ***idea*** or how to ***compose*** elements meaningfully is a challenge at any skill level. This studio's focus is to stress the development of both conceptualization skills as well as problem solving skills.

An ongoing exploration of architecture past and present will be expected. Be curious. The ability to see as an architect is essential to the design process. Architects must be able to see through a different aperture in order to generate solutions uncommon to most others. We must be able to critique and evaluate each possible opportunity and decide how to move forward. The architectural ***idea*** will become the rod which will be used to measure each decision.

As projects proceed, students will be asked to consider how their ***concept*** is manifested in the space, perception and experience of their solution. Many architectural ***ideas*** will arise and compelling forms are abundant. However, we will endeavor to find an architecture where both are co-dependent. How a series of elements are ***composed*** to support the idea is a primary objective to achieving clarity.

process:

We will seek to **understand** the problem we are solving and discern how the elements of its ***context*** may inform the solutions. Asking critical questions throughout the process assists in defining the real problem: sometimes one that is different than the one posed.

We will continually **test** multiple ideas through a combination of creation and discovery. A broad search within the given constraints will reveal the essential aspects of the problem and guide the editing out of the extraneous.

We will **evaluate** our experiments and each other's endeavors through critical thinking and group discussions. The ***idea*** should be evident in the solution; the solution should inhabit the ***idea***.

objectives and evaluation:

- hard work, practice, fun, consistency, and above all - passion
- willingness to learn and contribute to discussions and studio environment
- representation of idea, space, solution clearly and neatly
- demonstration of sequence, experience, purpose visually and verbally
- richness, imagination, elegance, experience
- research and discussion in studio may include select readings: Le Corbusier, Louis Kahn, Peter Zumthor, Christian Norberg-Schulz

preliminary building study list

Darwin Martin House, Frank L. Wright, 1904
Schroder House, Gerrit Rietveld, 1924-25
Villa Bianca, Giuseppi Terragni 1936
La Tourette Monastery, Le Corbusier 1953-57
Hanselmann House, Michael Graves 1967
Wall House, John Hejduk, 1973 / 2001
Exeter Academy Library, Louis Kahn, 1972
Giovannitti House, Richard Meier, 1983
Crawford Residence, Morphosis, 1988
Westchester House, Richard Meier, 1984-86
Kunsthaus Bregenz, Peter Zumthor, 1990
New Canaan House, Hariri+Hariri 1990
Drager House, Franklin D. Israel, 1992-95
Chapel of St. Ignatius, Steven Holl, 1994
Teiger House, RoTo Architects, 1994
Thermal Baths, Peter Zumthor, 1996

Studio Damiani
CMU, Arch #48-200
Fall 2006, M/W/F 1:30-4:20 Office Hours: By appointment

Le Corbusier 1887- 1965

Studio Statement

As an architect, you are expected to be well versed in what makes something a work of architecture. This studio will focus on determining what is architecture through the lens of the architectural idea. Determining what is an architectural idea requires you to understand the difference between what is merely a strategy, fade or fashion and an idea. Architectural ideas span time, place and culture from Peruzzi to Libeskind and are, at times, seldom found.

As an architect, you must:

1. Take an intellectual position about your work
2. Your work must represent your own time, culture and place
3. You must represent your architectural ideas through well crafted models and beautifully crafted drawings
4. You must clearly communicate your ideas in an articulate, verbal manner

To support and test what is an architectural idea, you will be required to excel in the following as a student in my studio:

1. To have the willingness to learn and understand what is architectural space
2. To learn how to represent space spatially
3. To understand that architecture is also about sequence, experience and SPACE
4. You must be willing to read and analyze how creative thinkers communicate their ideas

Building Study: This semester this Studio will be looking at the works of Swiss born architect Le Corbusier. During the course of the semester each student will share their bi-weekly observations, research and analytical methods with the rest of the Studio.

Machines, Houses and Museums:

House of the Painter Ozenfant in Paris 1922
The La Roche- Jenneret House in Paris 1923
Small Villa on the shore of Lake Geneva 1925
Villa Stein de Monzie 1926
The Villa Planex in Paris 1927
Villa Savoye 1928
Dr. Currutchet's House in La Plata 1949
Cabanon Cap Martin, Roquebrune-Cap-Martin 1951
The Mundaneum and the world museum 1929
The Museum of unlimited extension 1939
The Cultural Center of Ahmedabad: The Museum 1954
The Tokyo Museum 1957
Visual Arts Center, Cambridge 1961

Required Purchase
Purchase before 09.12.06
Towards a New Architecture
by Le Corbusier

LUBETZ STUDIO
FALL 2006

Studio Objectives

This studio will stress the development of conceptual skills. Concepts will drive your architecture, which will then drive all of your decisions regarding that architecture.

We will also focus on the experiential qualities of architecture by stressing both the visual and non-visual perception of space.

The resulting conflict between conceptual architecture (mind) and the sensual experience of space (body) is intended to encourage you to consider architecture as an exploratory extension of your own observations and experience. This studio will challenge you to develop an appropriate means of communicating these insights.

I intend that the architecture produced in this studio be a provoker of the imagination.

Content is not a message but **an invitation to imagine**.

Ambiguity provokes the imagination.

Ambiguity is any nuance, however slight, which gives room for alternative reactions.

Heidegger (a German philosopher) believed that philosophy could be understood "most purely" in the form of a persistent question.
Therefore I intend to persistently ask why.
Why_____? Why_____? Why_____?

Required Reading

The Power of the Center: A Study of Composition in the Visual Arts
Author: Rudolf Arnheim
Publisher: University of California Press. 1800-822-6657
USBN: 0-520-06242-6
Price: $14 (paper back)

Minnerly
Composition Studio
CMU, Arch #48-200
Fall 2006, M/W/F 1:30-4:20 Office Hours: by appointment

Studio Statement and Objectives:
Expertise in any discipline is developed from a strong understanding of its fundamentals, hard work, practice, creativity, and a bit of talent. This studio is intended to provide students an opportunity develop their design skills by focusing on Concepts, Composition and Context. (see Course Syllabus)

Concepts
In this studio we will explore the value of an Architectural Idea. Students will be asked: In what way does a strong concept guide our design decisions? Do these design decisions indeed reinforce the original concept? Why are some ideas are more useful in the design process than others? How do concepts develop or change during the design process?

Composition
In this studio we will explore how general notions of composition can be translated into specific formal architectural relationships. Students will attempt to extract and translate architectural strategies from other sources of compositions (art, music, etc). Students will be asked to look for the limits that develop in translations from media and disciplines. The studio will focus on the composition of architectural spaces (spatial sequence).

Context
In this studio we will explore how context impacts design decisions. Students will be asked to consider the relationship between existing and proposed work as a form of dialog. (text and context) In this manner, the architect must not only *understand* what exists already (what is being said) but also determine how to *respond* to what exists (what to say).

Architectural Design Process
In this studio we will constantly be asking: Is it Legible? The clarity of any idea must be tested in the architecture itself. The design should be able to speak for itself.

Building Analysis
We will look at several works of Alvar Aalto (list to be provided)

Studio evaluation Criteria:
Architecture is about the making of things. Students will be expected to demonstrate an understanding of the studio objectives through their work. Students will be expected to produce work products that may be used for discussion and critical feedback for each studio session.

Readings:
Venturi, Complexity and Contradiction in Architecture
Warke, Prolegomena to a Rethinking of “Context” in Architecture, Cornell Journal of Architecture 5

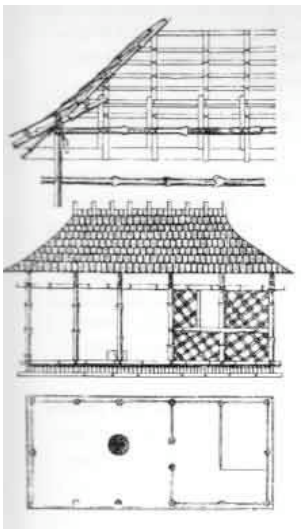
Architecture, Design & Materials Studio

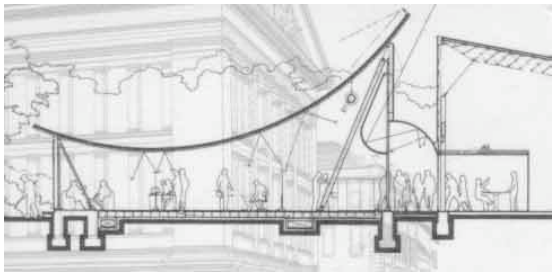
Coordinator: Kai Gutschow
Email: gutschow@cmu.edu
Off. Hr: M/W 12:30-1:30pm & by appt. in MM307

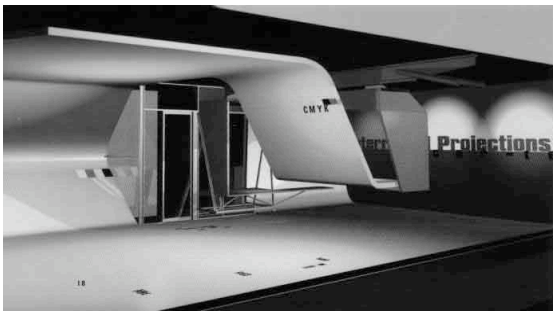
Spring 2007, CMU, Arch #48-205, M/W/F 1:30-4:20
Class Website: www.andrew.cmu.edu/course/48-205

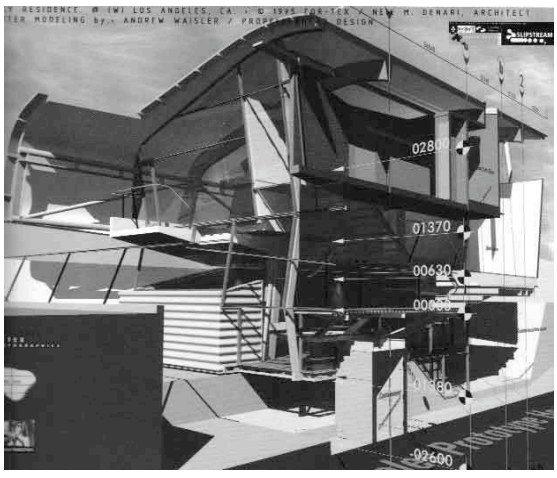
(1/10/07)

S'07 Description









"As architects, we are united in our love of the physical world. We like to touch and make real things." - B. Tsien

"Material itself is dead and lifeless. It is only given life by form, breathed into it by the creative will of the artist." - W. Gropius

OVERVIEW:

Building on the fall "Composition" studio, the spring semester is concerned with more in-depth understanding and development of designs for small-scale buildings, now informed by greater knowledge related to materials and the act of construction. We seek to explore the aesthetic and experiential meaning of materials (WHY?), and the technical knowledge related to the use of materials and the processes of construction (HOW?). The creative opportunities and design implications of using varied materials, structural systems, and assembly techniques are elaborated, especially as they determine the *artistic, conceptual, poetic, creative, spatial, and experiential* aspects of architecture. The studio, the lectures, and the required "Building Study" will focus on the application and integration of knowledge acquired in a parallel "Materials & Assembly" course 48-215.

Objectives: To analyze and think critically about the role that materials, assembly methods, and construction play in existing architectures, and applying this with intent as part of a larger, synthetic and creative design process in your own designs. To define strategies for problem solving, conceptual development and poetic expression at all levels of the design process, large and small, conceptual and real. To develop structured arguments about your design intentions and the means to communicate them effectively, especially with regard to materials and construction. As in the fall, the focus of both the teaching and learning must be in 6 areas: 1) Attitude; 2) Verbal Acuity; 3) Drawing Clarity and Power; 4) Robust Models; 5) Conceptual Clarity and Richness of Detail; 6) Theory.

PROJECTS:

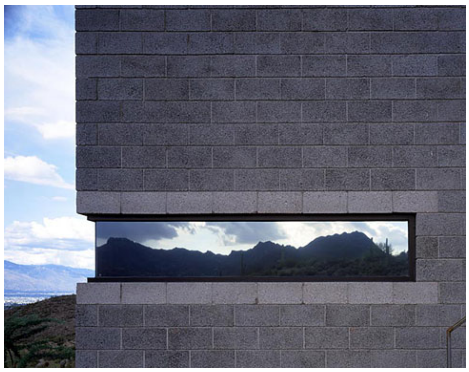
The semester will consist of three inter-related projects, the same for all studios, although each studio will explore the themes of materials and assembly with unique accents:

- **Proj. 1 Temporary Library**: design a small, temporary library in a very limited palette of materials. The focus will be on the scale of the human body encountering the materiality of books and architecture in a small-scale design.
- **Proj. 2 Building Study**: analyze a building focusing on how a specific material functions to determine form, space, experience, and meaning. Material to be selected in association with assignments in concurrent M&A class.
- **Proj. 3 Neighborhood Library**: design of a larger, permanent neighborhood library focusing on the role of materials and assembly in reference to context, function, experience, space, and meaning. In order to encourage a robust design process, a "Design Summary" will be due after the first mid-review, a detail of the building will be explored at large scale, and modified structural drawings will be prepared for the design in the concurrent M&A class.

architecture, design + materials studio

studio calisti
CMU, Arch 48-205
Spring 2007, MWF 1:30-4:20
lcalisti@andrew.cmu.edu

Architecture starts when you carefully put two bricks together. There it begins."
Ludwig Mies van der Rohe



statement:

An architectural idea must become real in order to fully experience it and share that experience as a human. Enduring architecture comes from a process that explores design at varying scales simultaneously. This process must go beyond generating a form then figuring out how to build it. This studio will go beyond the conceptualization of architecture to the reality of architecture. The necessities of architecture should not detract from the ideal concept, but contribute to its overall significance.

This studio will begin to apply this premise to the first project, a **temporary library**. Our studio will also participate in a studio wide competition for this first project (sponsored by the *National Concrete Masonry Association*) along with at least one other studio to design our structure out of primarily concrete masonry units (CMU's).

Students will be encouraged and expected to exploit the possibilities of expression through intuitive (inherent), rational (practical) and innovative (reinterpreted) integrations of this material. Moreover, the possible combinations of placing 'concrete block' adjacent to another material will make for an interesting challenge to find a meaningful and poetic solution.

As projects proceed, students will be asked to consider how can materials influence form, affect space, challenge perception and elicit experience. Our aim is to understand how materials support and contribute to an architectural idea.

We start with what is particular to a problem. … Now it's true that all manufactured materials have some hand involved, but it's not always so visible. The challenge was to establish a direct relationship between what you see and how it was made, so you make a connection between the hand and the finished object. -Billie Tsien

…There is a notion these days that architecture is increasingly becoming lighter. But I don't believe it one bit. It's just an illusion of lightness. Buildings are heavy. I haven't met a building I could lift. –Tod Williams

process:

We will seek to **understand** the problem we are solving and discern how the elements of its context may impact the solutions.

We will continually **test** multiple ideas through a combination of creation and discovery. A broad search within the given constraints will reveal the essential aspects of the problem and guide the editing out of the extraneous.

We will gain a **respect** for how the material (or tangible) aspects of construction can inform our conceptual ideas. Students will be expected to explore the size and scale of materials along with joints and assemblies, tactile and visual characteristics and how these qualities impact the space. Lastly, the process will encourage the graphic (and virtual) assembly and disassembly of our designs to expand our understanding for the relationship between structure and skin, surface and form.

Studio Damiani
CMU, Arch #48-205
Spring 2006, M/W/F 1:30-4:20 Office Hours: By appointment

Instructor: G. Damiani

"Her green plastic watering can
for her fake chinese rubber plant
in fake plastic earth.
That she bought from a rubber man
in a town full of rubber plants
Just to get rid of itself."
Fake Plastic Trees from The Bends
Radiohead

Architecture finds its expression as it moderates between the ideal and the real. The materials that constitute a building are as vital to the final form as is the client, design concept(s), site and region.

The idea of material tectonics is nothing new to architecture; it has been the subject of discussion since Vitruvius. The debate continued with such architects as Vignola, Alberti, Semper, Wagner, Loos, Wright and others throughout time.

The digital revolution has quickened the pace of technological invention bringing with it new materials as well as new construction and fabrication methods to time-tested materials. This new material gestalt potentially broadens the tectonic discourse beyond the ordinary traditions.

Today, the architecture of a select few question orthogonality with exotic materials and unique fabrication methods while others question the arcane construction methods of our time in the search for new intentions for the materials. This studio will look at materials, technology, fabrication, site, region and the client as the source of its form.

Premise
This studio will focus on how building materials and construction methods can aid in the conceptual, experiential, and poetic aspects of architecture.

Projects:

1. Project One will be a temporary library made of dimensional concrete block (CMU), precast concrete plank and a secondary infill system of your choice. (Competition Studio)

Students will be asked to research CMU, precast concrete plank and a secondary infill material of your choice and present their properties, qualities, conventional uses, and possible advantages and limitations. Students will be encouraged to look inside and outside the standard uses of these materials to find new forms of expression for these materials.

2. Research and Re-representation (concurrent to Projects 1 & 3)
Through drawings and models, each student will prepare a critical study of an assigned building. This study will focus on how building materials influence the spatial, experiential, and environmental aspects of architecture and will conclude in a special presentation and review with outside architects and scholars.

3. Project Three will be a neighborhood library and is common to each of the individual studios.

Required Purchase
Purchase before 01.31.07

The Architecture of the Well-Tempered Environment
by Reyner Banham

Maison de Verre, designed by Pierre Chareau, Paris, 1930.

PERCEPTUAL SHIFT
Spike Wolff Studio Spring 07
Carnegie Mellon University 48-205

Studio Description

Form and space are the compositional elements of architecture. Walls, floors, windows; these basic lexical elements obdurately exist. These elements are used to shape and define our built environment. In the design studio, the materiality of these elements are represented by the elusive vacuity of chipboard. In reality, these elements are made of tangible physical materials which allow for human experience. Material is the corporeal medium through which we can experience the ineffable qualities of space.

The studio will focus on how materials support architectural ideas and the creation of architectural form. Design work will examine the typical characteristics associated with materials and explore possibilities to reinterpret their meanings in order to create new relationships. The studio will study the use and expression of materials and how one's sensory engagement with materials can shift the perception of space.

The perceptual qualities of materials are not limited to those characteristics thought to be inherent to them. Materials will be considered both in terms of the characteristics typically associated and atypically possible with them. The issue of materiality will initially be explored in terms of basic perceptual typologies - opacity, translucency, transparency, reflectivity. The project will begin with research into these typologies with the design of a 'window' - a perceptual threshold between two spaces. This exploration will continue with the design of a temporary library.

Architects suffer from the same studio syndrome. They work out of their offices, terrace the landscape and place their building into the carved-out site. As a result the studio-designed then site adjusted buildings look like blown-up cardboard models. - Richard Serra	Material, space, and color are the main aspects of visual art. Everyone knows that there is material that can picked up and sold, but no one sees space and color. Two of the main aspects of art are invisible; the basic nature of art is invisible. The integrity of visual art is not seen. .... Material is what art is made from. It alone is not art. - Donald Judd	For there to be presence, does something have to be present? For there to be absence, does something have to be absent? Spaces do not need to be defined by walls, Sense of mass does not need to be conveyed by the presence of an object. - Chang Zhang

CMU School of Architecture

Course Description for Fall 2006 3rd Year Studio

ARCHITECTURE AND LANDSCAPE

Walter Boykowycz Instructor

This studio course aims architectural design enquiry toward a comprehension of the landscape as a product of ecological processes, land-sustaining site engineering, and the exemplary effect of traditional cultures of land cultivation and sustainable building. This orientation is seen as a means toward the enrichment of the student's design insights and, in the words of American landscape architect John Lyle, toward an appreciation of the basis for a "deep order" in the architectural work. In the longer run, the goal of the studio is to assist the student's developing a personal ethics of design which considers the larger problems of dwelling in the world.

HYPOTHESES TOWARD A THEORETICAL BASE FOR THE STUDIO

1. The theme "architecture and landscape" as place for human occupancy defines design as striving toward synthesis of the site's physical attributes, its ecological conditions, and its cultural history, to formulate a design narrative and a concept of place which evokes heightened awareness or spiritual experience in the beholder.

2. The desirable landscape design is one which makes visible and tangible the natural processes extant in the site and the means to sustain them.

3. The concept "land", thanks to the distinguished American ecologist Aldo Leopold, is a community comprised of a particular synthesis of soil, water, climate, and living organisms, including people, who dwell there. This community's vitality and sustainability is dependent on its bio-diversity and on the degree to which human occupancy, given its dominance, is organized to support and protect it. In this light, the primary question for studio design endeavors is to be: " What should happen in this place to maintain or to reestablish harmony in the life of the world we inhabit?"

PEDAGOGICAL APPROACH

- The course depends on the student's effort to make connections between class exercises, lectures, self-directed research, and the semester studio project. Studio discussions will be scheduled to share insights regarding these.

- Design process will entail both individual and team activity to engender cooperation and stimulate constructive criticism. Final work will include a detailed study at an enlarged scale, elaborating the synthesis of architecture with ecological functions and providing for an order of indoor-to-outdoor relationships based on a creative adaptation to the microclimate.

- Time will be reserved to discuss & practice various forms of landscape representation and measurement through outdoor observation and sketching exercises. A high degree of graphic quality will be expected in the production of drawings and photomontages at every level of resolution and the evaluation of work will reflect this.

- The design skills particular to this studio pedagogy, as reflected in the Design Checklist handout, will be:

    1. Perception and manipulation of landscape form and space at various levels of detail in three dimensions.

    2. Formulation of site-specific design narratives which express insights, intentions and concepts.

    3. Design for indoor-outdoor habitation and outdoor climate modification for human comfort, making use of all landscape materials .

    4. Making natural processes and systems, such as the hydrological cycle, weathering, or plant succession, visible and understandable as a means to connect the project with the extant conditions in the world.

SEMESTER PROJECT

The semester project, approximately 6 weeks in duration, will address issues of landscape and human occupancy in the vicinity of the confluence of Frick Park's Nine Mile Run and the Monongahela River. This place, measuring roughly 10 acres, contains a wharf, a trailhead and various landscape conditions, both shore and inland. Immediately contiguous is a village neighborhood of a dozen dwellings. During the first half of the semester, initial steps by the studio will to be an organized series of research exercises. The object of the study will be to understand the place and consider ways of enriching the local land community, asking the "what should happen here?" question in the context of possibilities for an evocative destination for visitors and for the revitalization of the river and creek shore land.

This phase of studio work will conclude with a schematic landscape design produced by self-selected teams, and will include a building or structure of public use whose program will be defined by each team with the instructor's assistance. The last phase of the semester work will be to define a one-quarter acre or larger part of the project's indoor-outdoor space and to refine it in detail at a large scale.

STUDIO REFERENCES

Swaffield, Simon, ed., *Theory in Landscape Architecture: A Reader* U of Penn Press 2002

Thompson, J. William, & Sorvig, Kim, *Sustainable Landscape Construction* Island Press 2000

Instructor's Course Handouts for particular assignments and reference excerpts for reading and discussion.

Campbell, S. Craig & Ogden, Michael H., *Constructed Wetlands in the Sustainable Landscape* Wiley 1999

Dee, Catherine, *Form & Fabric in Landscape Architecture* Spon 2001

Goettel Studio

Working in synchrony with other 3rd Year SITE studios, this studio will examine a parcel of undeveloped but neglected public land in Pittsburgh's Frick Park.

This land is both an underutilized amenity to urban living, and a scarce natural resource. As an underutilized amenity, proposals are sought that will significantly increase usage to the benefit of city dwellers. As a scarce resource, proposals are sought that will restore and conserve the park's natural systems. Therefore two outcomes are expected in student's proposals that are complex and, in some cases, contradictory. These outcomes require both a broad view, and detailed understandings, of the place of the park in the city, of the physical requirements of facilities for human respite and recreation, and of the requirements for long term sustenance of the park's natural settings.

Working with other studios, this studio will begin the semester with preparatory exercises and analyses of various kinds of the land and of the surroundings. Students in this studio will then participate in exercises to develop a program or programs, and there may be as many as three, for interventions that include built improvements. Finally, and working in teams of two, students will develop proposals that follow from these programs as their "semester projects".

Download this as a file

48-300 Fall 2006
3rd Year Site Studio - Loftness

Ecological Design: Landscape & Architecture

Parks are the green lungs of cities, the countryside for urbanites, visual amenity for neighborhoods, and the recreational refuge for citizens. Yet surprisingly, urban parks are often neglected, untouched by ongoing investment or design inspiration. Pittsburgh's major parks are entering a period of renaissance, and architects, landscape architects, horticulturalists, and planners are beginning to rediscover the richness of topography, waterways, vegetation, habitat, microclimates, mobility and recreation offered by the necklace of parks that connect our neighborhoods.

In this studio, students will make proposals to revitalize one of the most significant parks in Pittsburgh, Frick Park, with a focus on a major destination of those moving through the valley - the rivers edge. The Studio will begin with a detailed inventory and analysis of physical and programmatic conditions. The conditions of topography, landscape, mobility, vistas, and activities will be captured for presentation to a broader constituency of vested groups in Frick Park and the City. Students will then work in small groups to prepare visionary strategies that restore natural ecologies and enrich functional and aesthetic value for the adjacent neighborhoods and for the city.

Linking inspired indoor and outdoor places, student teams will introduce a boat house, providing a home for a rowing club in a city with a growing reputation as a runners and rowers paradise. The language of the design solutions will reveal a growing command of ecological design that includes topography, landscape, water, climate, transportation access including bikeways, walkways and running paths, landscaped spaces, and of course sensitive built spaces for river based activities that engage nearby neighborhoods with the riverfront.

boat club Alberta Canada


floating boat club Swindler Cover NY

The goal of the studio is to study and define spatial relationships between buildings, landscape and man. The cycle of design that produces such relationships is complex but rational in nature. We will study methods of discussing and expressing design from analysis to final documentation. The studio will attempt to step out of the realm of cliché landscape understanding to define individual site needs and patterns.

Frick Park will provide a palette from which to draw study and inspiration. As a site it engages urban and semi-rural conditions within the context of varying socioeconomic models. Spaces within the park range from small gardens to large open fields to dense forestation. We will document and define these spaces and attempt to understand the ecological, cultural, and architectural issues involved with proposing new uses and patterns on the land.

We will critically discuss landscape architecture and architecture in an environment that is engaging and interactive. Students are charged with intellectual self and peer examination to drive design and professional development. The expression of ideas through varying media including hand sketching, computer and verbal communication will be emphasized to promote these interactive discussions.

CMU School of Architecture Spring 2007 48:305 ARCHITECTURE & ADVANCED CONSTRUCTION STUDIO

Course Syllabus

Studio Instructors: Jeff Davis/ Kevin Gannon, Michael Gwin, Chris Minnerly, Kent Suhrbier
Steve Lee Lecturer, Walter Boykowycz Coordinator
Office MMCH 309, cell tel. 412/999-4525, e-mail: wb09@andrew,cmu.edu
Office Hours Fri. 4:30-5:30, & by appointment 1-17-07

INTRODUCTION

As defined in the School of Architecture studio sequence, the theme Architecture and Advanced Construction is part of a cumulative list of pedagogical concerns which comprise the architectural design process. This sequence requires the student to consider design assignments in terms of the specific studio emphasis, and also to recall and apply previously learned principles and knowledge. The adjective "Advanced" in the current studio title refers to contemporary concepts and technology of structural design and construction, material assembly and production systems utilized in large building projects.
The expectation of the design process particular to the third year studio is that:

- there is a genuine investigation of design alternatives
- the project is developed and refined in detail beyond the schematic stage
- during all stages of the design process, the project is considered at various levels of detail
- the design considerations comprehend ethics and principles of environmental sustainability
- the concept and the formal language of the architectural design is informed by the search for technical understanding and resolution.

In the context outlined above, the pedagogical aim of this studio course is **the investigation of the salient role of structure and building enclosure in the architectural work**. Accordingly, the proposed central issue for studio projects is the structural idea together with the refinement of construction detail both as concretization of architectural intention and as satisfaction of building program requirements.

Each Studio will have its particular pedagogical program as defined by the particular Studio Instructor. The common fundamental learning objective during the work in the studio will be to develop an ability to visualize three-dimensional configurations of matter and forces, and to make judgments about the shapes, sizes, positions and connections of the corresponding construction. In this regard the pedagogical orientation bears comparison to the tenets of modern architecture articulated by early modern theoreticians such as Gottfried Semper (1851): architecture consists of earthwork/floor, hearth, structural skeleton, and non-bearing enclosure.

In sum, the studio course aims at a synthesis of both an aesthetic and a technical dimension as defined by the following hypotheses:

1. Structure: Architectural derives its significance and its spatial order from an integration with a clear structural concept. Such a concept manifests itself in an elegant & efficient configuration of load paths made visible as correctly shaped and sized structural members and joints. Design evaluation will address the elegance, efficiency and economy of the proposed structure.
2. Enclosure: The character of an architectural work, its image and order, is most directly appreciated through perception of its enclosure whose surfaces and openings allow an expression of the building's tectonic intent even when the structure is concealed. In practical terms the building envelope is a filter between exterior and interior environments. It is designed to accommodate particular occupancy requirements and has multiple functions related to structural stress, temperature control, light control, weathering and the like. The successful enclosure is measured by both its esthetic quality and by the predicted durability and physical performance of its assembly.
3. Ecologically Conscientious Material Selection & Joinery: Similarly to the preceding assumption, the architectural image of a building set in its particular region depends on the intelligent choice of construction materials and a carefully considered system for their joinery. This selection and shaping is based upon an understanding of material sensual qualities as well as material properties such as locally available manufactured form, strength, workability, durability and ecological implications. Among the most significant implications is the life cycle of the building, its reuse and its dis-assembly into re-usable components and materials. In this respect, the capacity of buildings to be demountable and re-assembled is a desirable design goal along side of the other: that buildings are constructed to last and to be adaptable to other purposes beyond the lifespan of a particular occupancy.

4. Feasibility of Construction Process : While the esthetic dimensions of this issue are not obvious (save perhaps that the appearance of the building should be a legible result of how it is made), the feasibility of a building project depends largely on the economy of the off-site and on-site operations (spatial clearances for tools, sequences, fabricated component storage, life cycle maintenance procedures) required to build it. The inspiring qualities found in the objects of pre industrial production reside in this carefully cultivated understanding, refined over many generations of practice. The ever increasing role of off-site component production, manufactured by means of computer aided design and construction procedures, will enter the discussion of detail design in the studio. The written work of Stephen Kieran and James Timberlake will serve to define the theoretical base of this set of issues – "Manual" Princeton Press 2002– for easthetic issues of detailing, "Refabricating Architecture" McGraw Hill 2004– for issues of manufacturing methodologies.

SEMESTER PROJECTS

An initial sketch problem, conducted by self-selected cross-studio teams of two students (see attached description) will serve to introduce the course orientation and knowledge base.
In line with the pedagogical goals of the studio, the semester project will serve the principal opportunity for the trial application, and synthesis of acquired knowledge and skill in a building program for which the issues cogent to the course are of significant importance. The project for all studios will be an ACSA 2007 Student Design Competition, with a building program for "A Museum of Steel", to be located on the Carrie Furnace Site in Homestead, (about 1.5 miles upriver from Nine Mile Run), as defined in the competition statement at the following address:
www.**acsa**arch.org/**competition**s/

Since the program is conceived as a national competition with generic goals and products juried by others, to make this venture useful for the course, each studio instructor will determine the studio's pedagogical approach toward the modifying building program, principal structural materials, design objectives, design process schedule, and the like.

The project will be an individual work. A resolved preliminary design will be juried at mid-term.

PRINCIPAL REFERENCES

The attached bibliography lists reference books on reserve in Hunt Library and library books for general application. Each Studio Instructor and lecturer will assign reading/study assignments for studio discussion and lecture reference during the course.

The following will be regarded as the principal course texts:

720.4 B56L2	Beukers, A. & van Hinte, E. Lightness 010 Publishers, Rotterdam 1999
on order	Moore, Fuller Understanding Structures McGraw-Hill 1999
721.02 W34M	Watts, Andrew Modern Construction Handbook Springer Wien 2001
729.1 H58F	Herzog, Tomas et al Façade Construction Manual Birkhauser 2004 Hunt Library
720.47 F36M	Fernandez, John Material Architecture Architectural Pres 2006

COURSE EXPECTATIONS To be augmented by individual instructor's syllabus.

1. Attendance and cooperation: The student is required to work in the studio space and to contribute insights and criticism to his/her colleagues during scheduled assignments, consultations, and reviews. The School administration policy rules that more than three unexcused absences from class are grounds for failure in a course.

2. Desk Crits: Since the final project is a product of individual work, each studio instructor will determine the method and frequency of design consultation and criticism. The course coordinator and the other members of the 3rd year faculty will visit each studio as scheduled in the Course Calendar.

3.Documentation of Work: The Studio instructor will define policy on work documentation. In light of final presentation and mandatory e-portfolio requirements, the student is asked maintain evidence of an orderly process by saving and/or photographing sketches and study models produced during the course.

4. Deadlines: The student is encouraged to put in practice a planful design process common to professional work, subjecting production to frequent self review and assessment to allow prediction in the face of time limitations. The

course schedule is determined jointly with other instructors who will participate in reviews and studio visits. Because of this, the scheduled due dates must remain firm. Late work will not be accepted without valid excuse, while failure to submit mid-term or final work will be grounds for failure of the course.

5. Grades: Work in the studio will be evaluated both in terms of product and process of design. The course final grade will merge three grades: **Introductory Sketch Problem 10%, Mid Term Grade 30%, and Final Project 60%.**
Grading criteria for submitted work will be cumulative as follows (see also attached check list):

R: Failing work, not meeting the requirements of the problem or course, showing serious deficiencies in skills, and raising questions with respect to the student's future success within the program.
D: Passing work, which is incomplete but showing evidence of consideration of factual knowledge and adequate problem comprehension.
C: Above criteria for D and evidence of consideration of alternatives in the completed project.
B: Above criteria and evidence of a comprehensive development and a persuasive architectural resolution in light of the studio course knowledge base.
A: Above criteria and evidence of enlightening invention or of exemplary refinement in the resolution of the project. The grade of "A" will be given only in exceptional cases and will involve the consultation of the third year faculty.

The final grade will include improvement in the student's performance during the course.
The Coordinator will base evaluations in line with the attached Check List.

6. An in-studio evaluation of the course will take place at mid-term.

STUDIO DESCRIPTIONS

JEFFREY DAVIS / KEVIN GANNON STUDIO

The focus of this semester's work will be to develop a design proposal for a 75,000 gross square foot (approximate size) Museum of Steel, to be located adjacent to the Carrie Furnace in the Steel Industry National Historic Park in Rankin, Pennsylvania. The design problem will have specific, fixed programmatic requirements that will influence the manner in which the design proposal integrates structure and enclosure, as well as on how the building's character and composition are informed by culture, materials, and construction activities. The design process will also require that each student develop a clear understanding of the informative relationship between ideas, materials, and assemblies, as well as transform their thinking about similarly-sized forms and spaces and how the structural and construction methods employed in the construction of the building are interrelated to its purpose and context.

The work of the studio is predicated on the proposition that the choice of forms, arrangement of materials, and the methods of building are both a means and an end for the development of conceptual ideas and cultural meaning.

A fundamental component of the design process will be the establishment of principal project goals at the outset of the work and the utilization of these goals as the framework for continued self-analysis of the work-in-progress, as well as for evaluation of the final product.

Throughout the semester, equal emphasis will be placed upon:

- Process and product
- Technical and aesthetic resolution
- Conceptual and experiential integration

Each student in the studio will be responsible for developing his/her proposal on an individual basis.

Construction is a cultural activity…Material assemblies are conceptual drivers…it's all design…

MICHAEL GWIN STUDIO

The semester studio project will be a design for the museum of steel proposed as a focal point to the waterfront reclamation project in the historically rich Monongahela River Valley.

As a studio, the design process will further a tectonic understanding of architecture as a constructional craft equaling space and abstract form. Throughout the semester, equal emphasis will be placed upon the integration of tectonics, intuitive poetic understanding of the specific circumstance, technical and aesthetic resolution, and conceptual and experiential qualities. Building upon the knowledge base manifested in previous studios; each student will develop and communicate an understanding between ideas, inherent articulation of chosen materials and assembly, and architectural vocabulary specific to the physical site, construct, and cultural context. This exploration, along with the issues described in the course syllabus will be the framework of the semester's work.

The process will begin with exploration in the opportunity of the specific circumstance of the project. Throughout the process, each student will integrate his/her conceptual understanding with the means and methods of a physical construct where one is constantly informing the other. Analysis and exploration of the physical characteristics and experiential qualities of the construct will be enriched by a parallel process of working in multiple scales and media. Sketching, analytical drawing, crafting of physical models, computational models, and discourse of conceptual ideas will be the framework for intuitive and analytical exploration. This process of working will create a basis for evaluation of the design resolution.

On an individual basis, principal goals will be originated early on in the design process establishing the fundamentals to sustaining and analyzing a work in progress. Continued informal conversation and reviews in a collaborative studio environment will support each student's efforts toward a final presentation of the semester work.

CHRIS MINNERLY STUDIO

This semester's work will be structured around a program for a Museum of Steel as defined in the 2006-2207 ACSA/AISC competition brief. The museum is to be located on the Carrie Furnace Site along the Monongahela River. In keeping with the goals outlined in the course syllabus, the resolution of the problem will focus on the synthesis of structure, enclosure and material systems in a coherent architectural response to the program and context. The studio will explore several other topics within this framework.

Precedent
Research will develop an understanding of the museum typology, its history, formal strategies and place as a cultural institution. The architectural response will pose questions that challenge, affirm or warp these observations.

Context: (refer to studio reading)
One premise of the studio is that architecture has something to say. The studio will explore strategies to respond to the surrounding contexts (or more correctly-texts) of the project. Individual projects will build on an understanding of these texts to generate a contextual response to the problem. Relevant texts may include the surrounding buildings, site, environment, history, politics and cultural conditions. The context (an individual student's proposal) will generate a dialogue that may include architectural responses such as, "hello…", "oh-yeah…", "I don't think so…", "yes, but…", or "have you heard of this…".

Legibility:
Strong ideas are only as good as they are legible. This studio will focus on how the various building systems noted above work to clarify the intentions of the work.

Studio Reading:
Prolegomena to a Rethinking of "Context" in Architecture, *Cornell Journal of Architecture no. 5*

KENT SUHRBIER STUDIO

This design studio will develop rigorous design proposals in response to the program defined in the 2006-2007 ACSA/AISC competition brief for a Museum of Steel on the Carrie Furnace Site along the Monongahela River in Pittsburgh, PA. The projects are intended to be submitted for recognition in this year's competition.

Society and Museums:

The studio research will begin with a precedent study and analysis. We will examine and question several current models for museums, their programs, building systems, forms, and images. We will endeavor to offer new definitions for the roles that museums can / should play as civic buildings within our context of past/present/future. Specifically we will examine the role(s) of a steel museum within the context of Pittsburgh.

Systems and Buildings:

The design studio will have at it's core the exploration, definition, and development of interrelated and integrated building structural systems, enclosure systems, and material systems. We will explore how combinations of these systems and an understanding of their respective construction processes combine to create formal building languages, spatial orders, and experiential sequences.

Definition and Development:

The studio will focus particular, detailed attention to areas of transition within building design proposals. We will examine how building systems/forms meet, join, and address conditions of ground/sky, inside/outside, space/object, landscape/urban, and civic/personal.

Resolution and Presentation:

The studio process will be centered on the development of forms that are defined by building systems and founded in conceptual ideas. The studio will require all students to develop these proposals into advanced, complete, and comprehensively presented designs. Both the design process and final presentations will require the use of diverse media and skills. We will build models (physical: digital), draw (physical: digital) and prototype (physical: digital) in order to define, develop, detail, and describe design proposals.

THE END

(48-400) Architectural Design Studio: Occupancy

School of Architecture, Carnegie Mellon University

Prerequisites: 48-351 and 48-305 – FALL 2007 – M, W, F 1:30 - 4:20 PM – CFA Main Studio

Ö Akın (Coordinator), Jeremy Ficca, King Jeff / Mick McNutt, Lee Steve, TBA

Course Intent

The most common and arguably the most important rationale for the existence of architects and architecture has been the accommodation of the occupants needs in *places* they design and build. This studio examines the critical relationship between occupants, and their needs, the expression of these needs, their translation into architecture, and the significance of all of this for architectural discourse.

This studio is interested in understanding user requirements and how they are employed in the design and use of buildings. Sociological, psychological, and physiological factors that influence users are relevant to this understanding. The "social" context of the design project is situated in the context of clients, users, financiers, and other professional consultants that help define this scope. Students are expected to understand these constituent groups and transform their requirements into physical design.

In this studio, a complex building program is employed (such as, a medical facility, a courthouse, or a high-tech building type with no less than 70,000 sf floor area). At a minimum, students are required to develop a detailed architectural program or to refine and revise such a program. Design proposals are required to be unabridged responses to the architectural program with explicit accommodation of aesthetic, functional, and construction issues.

Team design, participatory design, and user based design approaches are relevant to the agenda of this studio. Specific methods of architectural programming and post-occupancy evaluation should be used to better understand design requirements and their effective application.

In addition, the course is intended to fulfill a number of other educational objectives: sensitizing students to the social context of buildings, using computers and multi-media in the development and presentation of designs, and building students' confidence in their abilities to innovate with new design trends.

At the time they start this studio, it is assumed that students have been prepared to deal, competently, with architectural composition, building construction, and site design. The relationship of this studio with other required courses in the undergraduate curriculum, in particular 48-351 Human Factors in Architecture, is critical to its delivery.

Place in the curriculum

Integrated Design Studio
48-100 ADS: Form
48-105 ADS: Space
48-200 ADS: Composition
48-205 ADS: Materials
48-300 ADS: Site
48-305 ADS: Advanced Const.
48-400 ADS: Occupancy
48-405 ADS: Systems Integration
48-500 ADS: The Urban Lab
48-505 ADS: X

Drawing And Digital Media
48-120 Intro to Digital Media I
48-125 Intro to Digital Media II
48-130 AD I: A Tactile Foundation
48-135 AD II: Understanding Appearance
48-230 AD III: Perspective

Structures & Building Technology
48-210 Statics
48-215 Materials & Assemblies
48-217 Structures
48-312 Site Engineering & Foundations

Environment
48-315 Enviro I: Climate & Energy
48-410 Enviro II: Acoustics & Light
48-412 Enviro III: Mechanical Syst
48-415 Advanced Building Systems

History
64-100 Critical Histories of the Arts
48-240 AH I: Historical Survey
48-xxx AH II
48-xxx AH III

Ethics & Professional Practice
48-351 Human Factors in Architecture
48-452 Real Estate Design & Development
48-453 Urban Design
48-550 Issues of Practice
48-551 Ethical Decision Making

Course Objectives

Students must demonstrate *awareness*, *ability*, *understanding*, or *skill* in the following areas (Appendix I):

Primary Awareness Categories

- *Human Behavior Awareness* of the theories and methods of inquiry that seek to clarify the relationships between human behavior and the physical environment
- *Human Diversity Awareness* of the diversity of needs, values, behavioral norms, and social and spatial patterns that characterize different cultures, and the implications of this diversity for the societal roles and responsibilities of architects

Primary Ability Categories

- *Program Preparation Ability* to assemble a comprehensive program for an architecture project, including an assessment of client and user needs, a critical review of appropriate precedents, an inventory of space and equipment requirements, an analysis of site conditions, a review of the relevant laws and standards and an assessment of their implications for the project, and a definition of site selection and design assessment criteria
- *Accessibility Ability* to design both site and building to accommodate individuals with varying physical abilities
- *Comprehensive Design Ability* to produce an architecture project informed by a comprehensive program, from schematic design through the detailed development of programmatic spaces, structural and environmental systems, life-safety provisions, wall sections, and building assemblies, as may be appropriate; and to assess the completed project with respect to the program's design criteria

Primary Understanding Categories

- *Life-Safety Systems Understanding* of the basic principles that inform the design and selection of life-safety systems in buildings and their subsystems
- *Building Code Compliance Understanding* of the codes, regulations, and standards applicable to a given site and building design, including occupancy classifications, allowable building heights and areas, allowable construction types, separation requirements, occupancy requirements, means of egress, fire protection, and structure
- *Legal Responsibilities Understanding* of architects' legal responsibilities with respect to public health, safety, and welfare; property rights; zoning and subdivision ordinances; building codes; accessibility and other factors affecting building design, construction, and architecture practice

Secondary Awareness

- *Non-Western Traditions Awareness* of the parallel and divergent canons and traditions of architecture and urban design in the non-Western world

Secondary Ability

- *Research Skills Ability* to employ basic methods of data collection and analysis to inform all aspects of the programming and design process
- *Collaborative Skills Ability* to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings

Secondary Understanding

- *National and Regional Traditions Understanding* of the national traditions and the local regional heritage in architecture, landscape, and urban design, including vernacular traditions
- *Formal Ordering Systems Understanding* of the fundamentals of visual perception and the principles and systems of order that inform two and three-dimensional design, architectural composition, and urban design
- *The Context of Architecture Understanding* of the shifts which occur in the social, political, technological, ecological, and economic factors that shape the practice of architecture

Secondary Skills

- *Critical Thinking Skills* Ability to make a comprehensive analysis and evaluation of a building, building complex, or urban space

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[1] *The fact that some criterion are not included in these lists and that some are cited in the secondary position do not imply lack of importance of or need for accountability for these criteria. They have been addresses by other aspects of the curriculum and students are expected to satisfy all "awareness," "skill," "understanding," and "ability" categories to which they have been exposed by any aspect of the curriculum, up to this pint in their education.*

Curricular Goals of Coordination in the 4th Year Studio

1. Enable students to "take flight" with the knowledge, skills, and abilities they have acquired to date.
2. Create a forum for presentation, discussion, and debate of a common knowledge base that explores the intellectual content of the subject of "occupancy."
3. Identify and utilize a common set of criteria to evaluate "occupancy" in architectural proposals.
4. Identify and utilize a common presentation medium and format that best expresses the manifestation of these criteria in the student's final products.
5. Prepare students for the following year(s) of studio instruction.

Procedure

Each studio is an independent module of pedagogy primarily determined by its instructor. However, all studios share the above goals and they work together to refine the definition and delivery of the subject of "occupancy" in architecture. To this end, they have common procedures.

During the first few weeks of the semester, faculty and students will meet once a week to discuss the scope and significance of occupancy for architecture and the curriculum of the School.

Following this, the coordinator of the studio, with the help and participation of the studio faculty, will deliver a series of lectures that illuminate the subject of Occupancy. These lectures will include, but will not be limited to:

1. *Occupancy, what does it mean for architects and other constituents of architecture? (architects' letters)*
2. *The 'hidden' code of objects in space: what do* Design Patterns *conceal from the eye? (Alexander)*
3. *Architectural Programming: most neglected core functionality in design. (Pena, Problem Seeking)*
4. *How can we interpret Occupancy standards? (Dreyfus and the arrangement of objects in space)*
5. *Building Codes what are they for: Egress and Structure?*
6. *Building Codes what are they for: Context and Systems?*
7. *ADA is it a necessary evil or the ultimate accountability of the architect? (9/11 revealing architects' Achilles Heel)*
8. *Devil's advocacy: what's Occupancy good for? (a cultural critique -- Bourdieu)*

In the mid semester and final reviews held in the 4th year, students are expected to demonstrate their position with respect to occupancy. They will prepare a board illustrating this for their mid-semester review. For the final review, they will submit a ½" = 1'-0" section of their design illustrating the principles embodied in their mid-semester presentation (which is subject to modification and refinement).

Required Readings

Flatland by Edwin A. Abbott

Little Prince by Antoine de Saint-Exupéry

A Pattern Language by Christopher Alexander, Sara Ishikawa, and Murray Silverstein

Problem Seeking: An Architectural Programming Primer by William M. Peña and Steven A. Parshall

The Measure of Man and Woman: Human Factors in Design by Alvin R. Tilley and Henry Dreyfuss

Exquisite Corpse: Writing on Buildings by Michael Sorkin

Architectural Building Codes: A Graphic Reference ed. by James G. Scott, Nina Allene, Allene, Wheele Scott

Distinction, A Social Critique of the Judgment of Taste by Pierre Bordieu

[more by studio faculty]

In addition other readings will be issued during the course of the semester, by studio faculty as well as students.

Logistics

This course is planned so that students and faculty can perform within a schedule and without imposition of this course on others. To prevent conflicts, students are asked to plan their time so that they can complete the requirements and assignments of the course, and to inform instructors when conflicts with other courses are impending.

An instructor's schedule is meant to assist you in completing the work for your course and you may assume that it has been organized to reduce conflict with other courses. Therefore adherence to the schedule your instructor provides is important. An instructor may refuse work, which is submitted beyond the time it is due or may penalize late work. A student may not be permitted to pin up for review if the project submitted is incomplete.

Plagiarism, cheating, and disrespect for the work of others will not be tolerated. Individuals caught engaging in any of these will be penalized according to University Policy, which may entail grade penalty, failure of the course, or expulsion from the university.

The studio environment is the most important tool in your learning experience. As such, it should be kept clean and free of debris during class. During lectures or other presentations, use of recording devices, cell phones, computers, or any other sound emitting or disruptive equipment are prohibited. There should be no audible equipment in studio during class time.

For the purpose of augmenting the final studio grade, instructor will use the university's classification system for assessing work. Qualifications for grades are as listed to the right.

Grades

A Performance demonstrating superior quality, intellectually, formally, and technically; based on clear evidence of insightful architectural products; reserved for work that meets course goals in a professional and timely manner.

B Performance of good quality that has aesthetic achievement and technical competence; work that reflects a solid commitment to the learning process and an understanding of the issues.

C Performance of acceptable quality that meets the basic goals of the course; presented in a complete manner and without serious errors of omission or judgment.

D Performance of inferior quality that may reflect a conscientious effort but one that exhibits serious errors of judgment, lack of aesthetic skill or significantly incomplete presentation; the work does not meet instructional goals in several areas.

R Performance that is seriously deficient in merit and effort; reflecting lack of class attendance, significant incompleteness of work, or lack of interest in the subject mater of the studio.

SEQUENCING

Pittsburgh > Sydney Studio

48-400

DAVID BURNS
dburns@andrew.cmu.edu

STUDIO PROBLEM

> FILMS ARE MORE INTERESTING TO ME BECAUSE WHAT HAPPENS WITH A MOVIE CAMERA IN TERMS OF CAPTURING SPACE IS A LOT MORE ACCURATE. BY MOVING A LENS IN SPACE YOU CAN AT LEAST APPROXIMATE SOME OF THE COMPLEXITY IN THE LAST PIECE (CONICAL INTERSECT), THERE WAS A WHOLE ISSUE ABOUT UP AND DOWN, A REAL DISTORTION OF A SENSE OF DIRECTION.
>
> GORDON MATTA-CLARK

Architecture's similarities to film are many. Each depends on human interaction to function. Each has distinct patterns of progression and structure. Each surrenders a certain amount of control to the viewer. Most importantly, each is an experiential, ephemeral form of art.

GOAL

Through a rigorous examination of disparate media dealing with ideas of sequencing, progression, time and form, create an all inclusive new production facility for an independent film / media company.

SITE

The project will be sited in the expansive East Darling Harbour in Sydney, Australia.

COLLABORATION

The studio will collaborate with students and Professor Anthony Burke from the University of Technology, Sydney. In particular, Professor Burke, Director of the Digital Architecture Masters Program at UTS, will act as co-conspirator to aid our work, provide essential information about Sydney and Australia and participate in streaming trans-continental reviews.

EXHIBITION

On October 19, 2007, the studio will present its work to date in an exhibition titled "Continuum" at the 937 Liberty Galleries (third floor, above the Three Rivers Arts Festival). The show is a collaborative effort of Anthony Burke and David Burns and will be a component of the Pittsburgh Cultural Trust's Australia Festival.

The October 19th opening coincides with the opening of the other visual arts components of the festival and with the Fall 2007 Gallery Crawl. The work to be included in the show will be curated by Burke and Burns and will be chosen from the work of the studio and the work of the students at UTS.

INVERSION

Do to the placement of the show during the 8th week of studio, there will be a reversal in the typical design development of the project. Rather than relying on tradition plan-based processes for the creation of the form of the building(s), we will instead start with the image of the building. The work presented in the show will include large scale photorealistic renderings and short movies of the building in situ, without the usual aid of drawings, models, or diagrams.

Our goal is to imbue the architecture with the ephemerality of film; drawing the viewer into the project by appealing to the visuality of the work.

[48-400]

Architectural Design Studio: Occupancy
School of Architecture, CMU

Introdction:

ATMOSPHERES:

"The taste of the apple… lies in the contact of the fruit with the palate, not in the fruit itself"
-Jorge Luis Borges

This studio seeks to probe the theme of atmosphere as a means of questioning the hegemony of vision often associated with the design and assessment of architecture. In this context atmosphere is not merely theatrics, reliant upon the creation of superficial effects, but rather a more comprehensive understanding of specific material and spatial conditions as they relate to the singular and collective body.

This studio seeks to reconcile the quantifiable, often arms length process, inherent to projects of significant scale and scope with a close, focused awareness of the work as a generator of distinct and evocative conditions. As such, this studio will explore the potential of an architecture that is conceived as the agglomeration of these conditions rather than a singular dominant concept.

This studio will operate with the understanding that there is an inherent distance between the architect's instruments of representation, vis-a-vis models, drawings, etc. and the completed work of architecture. While this studio will utilize conventions of representation, particular attention will be devoted to the development and utilization of alternative methods for design and assessment.

This studio will operate with the understanding that limits are an inevitable and necessary, yet freeing device within the practice of architecture. They provide a framework to operate within, pushup against and at times, break with conviction. Attention will be devoted to the relationships between design strategies and project limits.

Project:

The vehicle for these explorations will be a health and wellness center located in downtown Pittsburgh. This facility will serve two agendas; cater to the increasing number of under-50 working professionals living downtown and promote a lifestyle of wellness and healthy living as an effective form of preventative medicine. Positioned as a wellness center, rather than a traditional fitness gym or sporting center, the facility will supplement traditional programs associated with a fitness center with activities that support a holistic approach to lifestyle wellbeing. To this end, the facility seeks to move beyond the hermetic envelope often associated with this project type towards more integration of spaces which are conditioned and unconditioned; natural and artificial; introverted and extroverted.

Site:

tbd

Carnegie Mellon University
School of Architecture
Design 48-400: Occupancy
Studio Brief: King + McNutt
Fall 2007

DANCE SCHOOL / LIVING SPACE architecture, poetics and the creative user

In an effort to celebrate a humane and finely grained conception of life, the Finnish architect Alvar Aalto (1898-1971) looked to an organic, irrational design process to avoid the alienation he thought had been wrought by strictly functionalist, rational architecture . . . Louis Kahn (1901–1974), when asked why he did not design buildings like Aalto, stated that a building composed of designed responses to casual activity would monumentalize casualness, freezing and preserving the ephemeral activity that other monuments left unspecified. [1]

It is hoped that the studio will take up this debate.

The 4th year fall semester addresses the topic of 'Occupancy', a deliberately broad term that is generally assumed to include issues of functional efficacy and user comfort, as well as occupant safety and code compliance. A responsible architect endeavors to determine the dimensional requirements and most efficient adjacencies for the given program, and deploy those programmatic elements on the site accordingly and within the strictures of applicable code regulations. In a strictly functionalist equation, the movement of bodies in space would be calculated for their given task, and the most efficient spatial solution would be provided. This method of design, however, could reduce the use of a building to a predetermined set of activities, establishing a homogeneous set of experiences within the space. What constitutes a successful addressing of an occupant's needs? As a variety of people converge upon a building with different expectations, how will the architecture accommodate their movement and interaction? Can the creative life of the user affect the architecture? What happens if program and space don't constitute a precise functional fit?

The studio hopes to expand the question of occupancy beyond a narrow definition of functionality to include spatial quality, social critique, and the potential richness gained through programmatic overlap, a looser fit of program and space, etc. To explore these concerns, the studio will propose a new ***Dance School and Performance Facility***. The program will include performance spaces, rehearsal spaces, classrooms, administrative support spaces, dining facilities, and housing for students and faculty. Emphasis will also be placed on designing the in-between spaces that act as the connective tissue between the fixed program elements. The studio will also be interested in how conversations with other artists, in this case dancers and choreographers from Dance Alloy and the Pittsburgh Ballet, can inform the design of space. How are concepts from one art form translated into another?

In addition to analyzing the field of dance, the studio will focus on methods of production and modes of representation – the tools architects use to communicate their ideas. The construction of physical models and the act of hand drawing are fundamental to this process and their use must be integrated with digital tools. At every iteration (desk crit, pin-up, review) each student is expected to produce representations of their design in all three modes in order to clearly communicate their design intentions. Nothing less than exceptional care and craft in all work will be accepted. Each student is expected to draw upon their prior three years experience as they tackle the largest and most complex project they have faced to date. It is expected that each student will work with consistent rigor throughout the semester to develop comprehensive architectural solutions.

Possible readings:
The Poetics of Space, Gaston Bachelard
The Practice of Everyday Life, Michel de Certeau
The Projective Cast, Robin Evans
The Sacred and the Profane, Mircea Elliade
Delirious New York, Rem Koolhaas
Actions of Architecture: Architects and Creative Users, Jonathan Hill

Other areas of focus:
Precedent: analysis and process
Program Development: analysis, testing, scale
Housing
Performance and Display
Movement of the Body

[1] Robin Evans, *The Projective Cast* (Cambridge, MA: MIT Press, 1995), 70-74.

Carnegie Mellon

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48.400, Solar Decathlon/ Housing Studio

Traditional American methods of housing are not adequately responding to the need for flexible, affordable, energy–effective and resource efficient housing. This studio will study housing in response to aesthetic, social, urban, sustainable, economic, tectonic, historic and political contexts

The first half of the semester will include preparing detailed precedent studies of housing since the early 1800's, as well as participating in the Department of Energy's 2007 Solar Decathlon Competition. The second half of the semester will be a more traditional studio designing innovative housing schemes on brownfield sites in the Pittsburgh region.

The precedent studies will be completed individually based upon assignments in class from the following list:

- Colonial America Cities including Savannah, GA and Charleston, SC
- Sears et al Pattern Book Homes
- The Garden City Movement including Chatham Village
- Broadacre City
- Weissenhofsiedlung
- Unite de Habitation
- Levittown
- The Lustron Home
- ArchiGram
- Habitat 67/ Nakagin Capsule Tower (中銀カプセルタワー)
- Columbia, MD/ Reston, VA
- Pruitt-Igoe/ Cabrini-Green
- Seaside/ Newpoint
- BedZed/ Solar Siedlung

Required texts for the course include Witold Rybczynski's Last Harvest and Introduction to Housing edited by John L. Merrill et al. A three-page bibliography is attached for your reference.

Participation in this studio is by prior arrangement only and will be taught in conjunction with the 48.400 Occupancy studio coordinated by Professor Omer Akin.

OUTSIDE THE BOX: Design Tank

48-400 Occupancy Studio, Fall 2006
Bartos Studio, Section A

In this 4th Year Occupancy studio, students and professor will consider how think tanks originate, how ideas are germinated and brought into built form and tested. Our design work will support those clients dedicated to improving the quality of life in the world, especially for 'the bottom 3 billion'-- the portion of the world still living in poverty.[1] [2]

Amy Smith is an inventor and mechanical engineer who spent 4 years in Africa between her bachelor's and master's degrees at MIT. In 2004, she was recognized by the MacArthur Foundation for a simple invention that fits in a shoebox: a water testing kit that can be used by almost anyone to test the safety of local water sources, whether well, river, trucked-in tanker or rain barrel. Single test cost: under $1. The MacArthur Foundation grant award of $500,000 will allow Amy to pursue here creative *ménage-a-trois* of invention, usability and extreme economy—the heart of appropriate technology.

Smith teaches design and invention at her 'D-Lab' at MIT (so called because it is located in the infamous Building D, a remnant campus building that houses odd-ball projects). The reconstruction of "Building D" for Smith and other interruptive inventors and scientists is our focus: a black box? a hungry skeleton? a camp of invention-refugees? portable pods? movable islands held together by flexible bridges? more core or more apple?

The disrepair that we see in our world today can appear irreversible, hopelessly ruthless and potentially cataclysmic. Recently, MIT's *Technology Review* ran a special focus issue on issues of global warming and energy consumption, resources and options. While hard-hitting in observations and commentary, it was an optimistic stance taken by numerous research and applications specialists. The title of the piece was, "It's Not Too Late." It is in that spirit of optimism and willingness to crack open the big picture that this studio is founded.

Can a mechanical engineer save the world? Can an architect save the world? Must we, as design professionals, only behave only in a reactionary way, taking jobs and starting projects as they are offered? How can we make use of our skills and talents when the problems are so large? Is any progress possible at a grass roots level or via incremental change? Can we change the world? More importantly, how do we make choices that place us in a position to contribute, and when do we start?

Via designing a new or reconstructed Building D and, in detail, the fit-out of space for Smith and her coterie of young scientists and inventors, we will consider the following:

- *how an architectural structure reflects, enhances and foments experimentation and new ideas*
- *concepts of surge building, in which the built environment can support substantial changes in physical needs*
- *kits of parts, or reduction of needs to components of planning, containers, capsules, portables and mobiles, smart walls*
- *shells and enclosures that can embrace the natural environment*
- *a sense of place that nurtures invention and break-through thinking*
- *the integration of high-content thinking, simple ideas, crude experimentation and roughed-out space*
- *the inclusion of polished, fitted-out spaces for retreat or renewal*
- *small and large spaces for collaboration*
- *occasions of serendipitous discovery*

The LAB

This project is not a traditional laboratory or research facility. It will not have extensive casework, lab sinks or titration tubes. It is down and dirty in nature, it takes advantage of cavernous spaces, and is populated by people who want to and can build things. This project will be more akin to the garage in which Hewlett and Packard designed and built their first PC. The occupants should have the right and the encouragement to alter the environment after they move into your final design.

The HEARTH

We will start with a two-day hands-on fabrication of a D-Lab project, and follow that with a two-week HEARTH design that will lead to the programmatic core of the D-Lab, its metaphoric town center or train depot.

[1] According to UN data, "Over one billion of the world's poorest people - the majority of whom are women, children, the elderly, disabled, indigenous people, migrants and refugees - subsist on less than $1 a day each."

[2] Note that such inventions are not all mechanical or physical. Examples of the Grameen Bank project in Bangladesh and the concept of Incremental Change in East Wahdat, Jordan show that high-impact inventions may be ideas of processes or financial programs that can have visible results in architecture and built forms of villages and cities.

OUTSIDE THE BOX, cont.

MIT SHOW-and-TELL
A mid-September long-weekend trip (tentatively scheduled for Sept.18-22) to MIT for a pinup of our HEARTH designs for Amy's team of inventers/designers will jump-start a collaborative programming effort new space with them. We can visit other buildings on campus: Baker House (Alvar Aalto), Kresge Chapel (Eero Saarinen), Simmon's Hall (Stephen Holl), Stata Center (Frank Gehry), and others.

PROGRAMMING THE D-LAB
Non-traditional in how programs are written, this will be a living document, referring to its change throughout the semester. Studio architects will be encouraged to experiment with program as well as space, and via their final designs, encourage their clients to think…OUTSIDE THE BOX.

REVIEWS:
As of this writing, Amy and the D-Lab team plan to come to CMU to review our design work at mid-term or shortly thereafter, in order to critique designs-in-progress.

Low-cost high-impact machines:
Step-pump for irrigation (top); low-fuel stove (middle); prototypes for making charcoal out of crop residue (bottom). All have the goal of being fabricated on-site by individuals or families.

Carnegie Mellon University
School of Architecture
Design 48-400
Studio Brief-Carlough
Fall 2006

BMW:CMU Center for automotive research, development, and delivery

A partnership between Higher Education and World Class Business fostering
Research, Enterprise, and Learning

Mission and Vision

As an outcome of an enterprise relationship between BMW and CMU, ***'cardd'*** will embody BMW in all its dimensions. It will unite tradition and innovation, emotion and precision, dynamism and aesthetics, exclusivity and openness. Here the partnership between CMU and BMW enters into dialogue with its customers, friends, neighbors and visitors - a place of encounter and change where BMW can be experienced with every sense and ***'cardd'*** students become leaders in their field.

Visitors to ***'cardd'*** will experience the BMW Brand and will discover the fascination with the theme of mobility, learn about future-oriented technologies and visionary ideas: the BMW Brand will prove the claim of being able to respond to future challenges today and to look beyond existing horizons. Here the visions of future mobility are already visible. ***'cardd'*** will be the venue for meetings between individuals in aesthetic surroundings, a delivery center for BMW automobiles with personal customer support as well as the fascinating experience of the BMW brand and a centre for research and development. It realizes the idea of creating space for encounters, allowing scientists, engineers, customers and visitors to experience dialogue in a new dimension. In a unique atmosphere the new BMW owner will experience the BMW brand, offering an impressive setting for collecting a new car.

The trajectory of the studio will be to examine ***'cardd'*** as a building type and propose design solutions balancing such issues as transportation infrastructure, systems integration, sustainability, local context and culture and a symbolic architectural expression appropriate in the enterprise relationship between BMW and CMU.

Media Arts Quarter, Pittsburgh
Carnegie Mellon University
4th Year Design Studio - Occupancy
Instructor: Jeffrey King

This studio will investigate issues related to the production and display of art and film, urban public space making, and the rehabilitation of an underutilized area of Pittsburgh by undertaking the design of a **Media Arts Quarter** related to the **Pittsburgh Filmmakers** organization**. Filmmakers**, located in a series of brick industrial buildings in North Oakland near the Baum Boulevard commercial district, has for some time been investigating the potential for a varied list of other media and arts organizations to relocate into new and/or existing spaces in the direct vicinity of Filmmakers' facilties. Local radio and television stations, galleries, dance and theatre groups, game designers, and graphic and visual arts groups have all been approached by Filmmakers as potential partners, in an effort to form an urban campus that could serve as a nexus for media arts production. We will work directly with executives and staff at Filmmakers to understand their mission, tour their facilties and assess the possibilties for their site.

The project will begin with a simultaneous site analysis and programming phase, where the students will be responsible to analyze and augment an incomplete program. The students will fill in the missing programmatic components of the MAQ, perhaps with program pieces design to juxtapose or counter the arts groups who have previously been invited. The students will decide where existing structures can be reused and where new construction will be required. Through the use of group and individual physical models, computer modeling, and a required sketchbook, students will be asked to move back and forth in scale from the urban to the more intimately scaled as they develop their projects.

We will view several films during the semester, some suggested by the instructor and some by the students. We will analyze the work of various contemporary artists and architects dealing with issues related to media and technology to find clues in ther working processes. We will also consider readings and other ancillary materials as a point of dialogue rather than as a specified reading list. The students will be expected to participate rigorously in an ongoing dialogue during the semester regarding artistic, architectural and cultural issues of importance to them, in an effort to have running parallel paths of investigation and discussion. These dialogues may or may not relate directly to the studio project at hand, but it is hoped they will make for an engaging atmosphere within which to produce.

Space and its relationship to media technology has proven to be a ripe field for discovery and analysis among architects and artists alike. Yet for our purposes this analysis can never be an end in itself. We will not lose sight of the theme for this semester's work, Occupancy, and the belief that architecture is always first and foremost the environment for human activity with a responsibility to address human needs in a poetic manner. The space itself will always more important than the process by which it was developed.

Carnegie Mellon University
School of Architecture
Design 48-405: Systems Integration
Studio Brief: Carlough / McNutt
Spring 2007

Neighborhood Center for Criminal Rehabilitation

or How to Integrate into The System

This studio aims to look beyond the systems of construction (structural, mechanical, etc.) and towards the social construct that is embodied within a building program. It examines civilized life at the divide between the incarcerated and the free. The Neighborhood Center for Criminal Rehabilitation posits two public spaces that are usually separated, a research library and a halfway house, in order to demonstrate the daily tasks of individuals conducting (or trying to conduct) a civilized life. The users of the library inhabit the facility for study and self-reflection in order to expand their knowledge. The inhabitants of the halfway house will have their own routine, strictly supervised by the facility, as they follow a routine that intends to develop trust in order to regain acceptance into society.

The exploration of this program will include site and environmental analyses that consider a precise response to the community so that an amalgam of system integration constructs the final product rather than an object of image and/or desire. The goal of the studio is to develop a clear understanding and conceptualization of the program in relation to its social construct while also creating a cohesive building that responds to the immediate community. With this study complete, the integration of building systems will be able to follow the same intention as the overall concept.

The process of drawing and developing an architectural project will also employ these self-reflective practices as drawing and model are constructed then re-used and re-implemented throughout the semester in order to maintain a consistent rigor and emphasis on the development of an architectural thesis. Several readings throughout the semester and a short introductory project will direct the student towards the final study of the Neighborhood Center for Criminal Rehabilitation.

Some additional concepts to be explored:

Importance of Light and Air

Everyday Life: Choreography of Routine

Constructed Systems: Choreography of Building Components

Doubling

Process of Memory (Engrammic Activity)

Production of Space (Method: Strategy vs. Tactic)

The semester will include a few site visits to existing Community Incarceration Centers in order to encourage an open dialogue about criminal rehabilitation, civilized life and the role of the architect in the production of space.

Pipeline

The Transformation of an Aging Industrial Park

New Kensington, PA

Course: 48-405 Section A, 4th Year Design Studio in Architecture and Systems Integration

One of many structures in New ken's Industrial Park

Revitalization of a community is frequently led by creative and intrepid ventures moving into abandoned, ultra-cheap facilities that can be modified to suit the tenant. Venture-capitalized firms are known for their minimal and low-rent structures— often bare bones and skin, simply providing space, fresh air and utilities to equipment and people.

Project Focus on Innovative environments to house innovative research: Most of our clients are developing and testing new products in which they are stakeholders. Their lives revolve around the 7-Year Pipeline, roughly the minimum length of time it takes to apply for and receive FDA approval of a new product. Some working teams begin in pure research & follow their discoveries into production; others will return to the lab for the next intellectual challenge.

The Client: People come to work in jeans and t-shirts, suits/ties, matched outfits, thrift-shop clothes and cowboy boots with pointed toes. At work we see them in lab coats with blue booties and hair caps. They are strong thinkers, explorers, gamblers and have alternating infinite faith in their abilities and abject despair. They work long hours, experiments must be watched 24 hours. They have nightmares about power outages, poor temperature control and contamination. The life span of biologists is rumored to be at least 10 years lower than other professions.

Program: Using a real program from the National Institutes of Health that supports contract researchers seeking innovation; we will add large open production and warehousing space, with high bays and cranes and little infill. Shelled space and expansion concepts will be part of the scheme.

We will house biologists and physicists/engineers: the former will want clean spaces with drawers that fit their titrating pipettes exactly and the latter like large open spaces for building their own equipment. One group has an affinity to fitted-out spaces such as boat interiors and the other to breezy garages and hangars. And we will need spaces/links for cross-fertilization.

We can use prefabricated or modular components such as shipping containers, or look at greater shells with custom infill. Or both. How do the systems serve such spaces? How do we break through clients' need to 'control' space to entice them back to natural ventilation?

We seek on one hand to provide good bones: leggy open-span structural systems and basic air tempering, plumbing, power; on the other, to find skins & envelopes that can be cut, modified, pulled, perforated, etc., as time goes on.

The Site: New Kensington, PA has an aging industrial park set directly on the eastern edge of the Allegheny River. Its buildings have contained the production of large-scale mining equipment in huge high-bay spaces with ultra-heavy-load cranes. These resemble giant sheds. The other typical building type is a multi-leveled manufacturing structure, rented by the floor, in the fashion of NYC's cast iron district, SoHo, but heavier and larger. Two years ago the site was 50% occupied and the owner was contemplating which structures to tear down and how to breathe more life back in the park, and the community.

A philosophical position-- Substantial Adaptation & Alteration, not Adoption: It is the intent of this studio to take an analytical look at existing facilities and aggressively alter and add to the existing building stock. This is not a preservation studio.

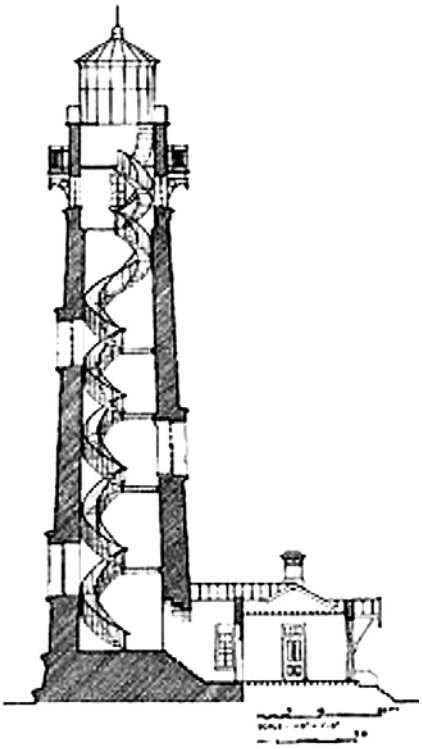
New Kensington was the focus of a 5Th Year urban study under Ken Doyno; we have his class's report and materials in electronic format. Basic demographics that reveal the need for physical and economic revitalization: http://www.city-data.com/city/New-Kensington-Pennsylvania.html .

Carnegie Mellon University
School of Architecture

Design 48-405: Spring 2006
Studio Brief-Carlough

The globalization of space and commerce:

The Maritime Collage of Rotterdam



As a nation, the Dutch have maintained a global presence through a history of determination and cunning in the realm of commerce. It comes as no surprise when one considers the commitment of this small nation to compete as they do in a global marketplace. The Dutch are world traders, and as such are committed to continued influence in this global endeavor. One example of this determination is apparent in an educational system that focuses upon shipping and transport. Grounded in Rotterdam, The Netherlands, The Maritime College recently constructed a new facility for this purpose. It is now the intention of the school to locate a “sister” branch in the United States.

To be located adjacent to Gantry Plaza State Park in Queens, New York, a riverside oasis that boasts spectacular views of the midtown Manhattan skyline, including the Empire State Building and the United Nations, the new facility will establish an anchor in a major world port. This view sets up a counterpoint of nations, both large and small whereby enhancing the presence of the Netherlands in global trade. As a beacon to their endeavor, the Maritime College will stand tall given the relationship between site constraints and the large program. This program will include mechanical workshops, virtual simulation labs, classrooms, gym, library, restaurants, auditorium, cafeteria, bookstore and private offices.

The trajectory of the studio will be to examine the College as a building type. We will deal with the complex challenge of balancing such issues as the culture of transport, within a more local context and culture offering symbolic architectural expression appropriate in the representation of the Maritime College.

This studio will focus upon the integration of building systems as a derivative of building form. In order to do this; conditions of site and use must be investigated with relation to their context. In this case, the context of site is both regional and global. The context of use recognizes that the diplomacy of commerce is an instrument of power, essential for maintaining effective international relationships. Analysis of such contexts allows the architect to establish a proposition with regard to the expression of various systems as a hierarchy supporting order and organization.

Material, space and color are the main aspects of visual art. Everyone one knows that there is material that can be picked up and sold, but no one sees space and color. Two of the main aspects of art are invisible; the basic nature of art is invisible.

Donald Judd Some Aspects of Color in General and Red and Black in Particular.

The studio will focus on two of architectures central tenets: the making of the public realm and the making of space. This focus will ultimately culminate in the making of

Public Space.

The studio will focus on the articulation of space as the primary means to develop an architecture. Space will be considered as that which the artist architect creates; not as an a priori condition which prefigures the palimpsest of the architect. To that end conventional notions of space as a neutral field and the absence of form will be discarded in favor of space as presence and lived experience. Space will be considered active *not* passive, dynamic *not* static, biased *not* neutral. Readings of passages by Artists, Architects and Critics will contribute to a greater understanding of this subject matter. Students will become familiar with various notions of space such as Euclidian Space, Cartesian space, *perspectiva naturalis*, *perspectiva artifiialis, costruzione legittima*, through these readings.

To provide a context for these spatial studies the students will be asked to consider the public realm. What does it mean to create public space? This question will be a primary motivating force driving the studio. The spatial studies will serve to articulate and give form to this question.

To enable this study the studio will engage and work with an established public institution. Students will work diligently and empathetically with a client to consider the expansion of an existing public program.

To move beyond the hypothetical and into the realm of the tangible the students will develop their projects through the full implementation and integration of building systems. Large scale drawings of fully developed systems and assemblies combined with large scale cut-a-way models will be paramount in understanding the relation between proposition, execution and reality. This will extend into the consideration of building materials and lighting studies that will serve to inform the nature of the space. The goal of this studio is to equip students with the knowledge and understanding needed to move from the proposition of architectural form through the execution and realization of that form that is true to its nature.

Fall 2007 Studio Descriptions

Premise and Projects:
The fall 2007 Urban Laboratory will consist of three studios studying a large urban brown-field adjacent to the Pittsburgh community of Hazelwood. The studio will explore reclaiming and reprogramming a post-industrial urban terrain by reconnecting it to surrounding human and natural ecologies, exploring programmatic scenarios, and designing a piece of sustainable contemporary urbanism. Working in two person teams students will examine how the 178 acre riverfront site can be transformed to into a new sustainable urban neighborhood combining residential, retail, office, institutional, and research uses. We will both explore the tenants of good urban design, and then attempt to advance them to fit the requirements of a first-rate 21st century "new town" with local, regional and global connectivity. To aid in our search we will collaborate throughout the semester with researchers in robotics and computer science to explore ways in which emergent technologies may serve to increase the options for what constitutes good urbanism.

The client for the project will be a combination of community stakeholders including the Hazelwood Initiative, ALMONO – the site owners, and current and future research tenants including the CMU Field Robotics Center. Three community workshops will bring these diverse communities together to work with students on ideas for the future of the site. The work generated by the studio will ultimately be published as part of the Remaking Cities Institute project exploring the future of the site.

All three studios will share a common pedagogy, community process and lecture series, however each will approach the Hazelwood site with a different programmatic focus in relation to the public realm. Studio A will focus on institutional, research and light manufacturing programs associated with the current site tenant the Field Robotics Center and others, and how they might be integrated into a future mixed-use neighborhood. Studio B will focus on a range of housing types and densities looking for connections to both the Hazelwood neighborhood and the universities. Studio C will examine public space, defined broadly to include public institutions, infrastructures, retail and office space, and the role they play in delineating the urban realm.

Logistics:
The entire Urban Laboratory will follow the same methodology and schedule and will meet as a group once a week for field trips, lectures and community meetings. The studio schedule is structured in three phases, with each culminating in community-oriented weeks involving public presentations and work sessions.

I. Analysis: Creating and interpreting a spatial, social, cultural and economic geography of the site in relation to a variety of scales.
II. Urban Design Frameworks: Creating a master plan for the site with an emphasis on accommodating your particular programmatic focus.
III. Place-Making and Visionary Projects: Creating a detailed urban design for an area of focus.

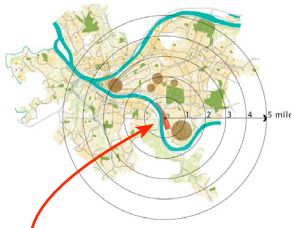
Individual Studios:
Studio A: Jonathan Kline is a principal of the Studio for Spatial Practice, a newly founded design firm focused on architecture and urbanism. Jonathan taught in the Urban Laboratory from 2002 – 2004, authored the current curriculum and was a research associate on the 3 Rivers 2nd Nature Project. Jonathan holds a BArch and an MFA in Painting and Drawing. Jonathan also practices and exhibits as an artist.

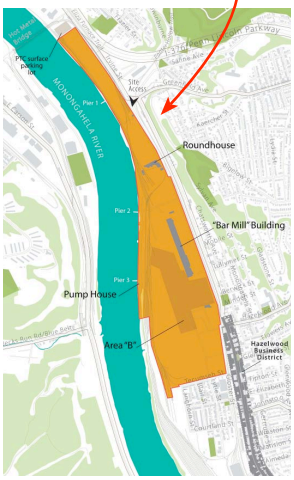
Studio B: Kelly Hutzell is the Lucian Caste Chair Visiting Assistant Professor. She has a BArch and an MS in Architecture and Urban Design and has worked as a designer for offices that specialize in academic and cultural buildings. In addition to teaching, Kelly currently works for the firm over,under.

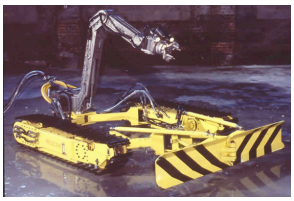
Studio C: Rami el Samahy is a principal of over,under, a multidisciplinary design studio based in Boston, Massachusetts with projects in the United States, Guatemala and Egypt. The work ranges from urban design and architecture, to interiors and graphic design. Rami holds degrees in Architecture, International Relations and Near Eastern Studies.

Studio A: Robot City

Professor: Jonathan Kline







CMU Field Robotics Research

The former LTV coke works is a 178 acre post-industrial urban brownfield stretched out along Second Avenue and the Monongahela River between Lower Greenfield and Hazelwood. The site and its spatio-economic context offer unique opportunities to explore the future of the City of Pittsburgh as well as that of the "city" in general.

The site's proximity to the University of Pittsburgh and Carnegie Mellon, allows for the possibility of building a cluster of related research and development facilities which could transform the economic geography of the city at the local, national and global scales. The two universities are doing leading research in biomedical drug discovery, bioengineering, multimedia technology, cyber security, and robotics, all of which are in need of room for physical expansion. Currently the entire site is being used by the CMU Field Robotics Center for development and testing of various robots including autonomous vehicles and excavation machines. This program in particular requires both large buildings and open manipulable "fields" for experimental testing.

Our studio section will explore scenarios for accommodating these research and development programs and integrating them into a new urban district on the site. We will also look for ways in which the technologies being researched can be integrated into the urban environment itself. The studio will seek to reinterpret the default scenario of R&D office park by looking for ways to integrate, weave and layer these building and landscape programs into a mixed-use district with an urban public realm. Our design efforts will focus on both the program and the public space that it helps to define. Going beyond economic development, we will ask how these activities can be physically, socially, ecologically and culturally integrated with their surrounding communities and region.

While the various master planning efforts for the site have offered convincing, if predictable, solutions for connecting new development to the Hazelwood community, no clear solution has emerged for the narrow portion of the site most likely to house the bulk of the R&D program. Looking to a variety of recent precedents combining landscape, urbanism and infrastructure we will seek innovative urban design solutions.

In addition to the general community and client workshops, our studio will provide opportunities to interact with researchers at CMU working in the Robotics Institute, The Quality of Life Technology Center, and the Entertainment Technology Center. We will also work with students in the Tepper School of Business and The Heinz School of Public Policy studying ways in which research and development in these centers could be developed into entrepreneurial opportunities.

SECTION: 48-500 ALL
COORDINATOR: Jonathan Kline

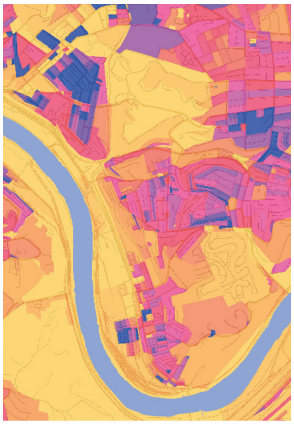
Studio B: Urban Housing

Professor: Kelly Hutzell

Studio B will focus on a range of housing types and densities looking for connections to both the Hazelwood neighborhood and the universities. Given the scale of the problem and the architectural issues, the studio will require not only coherent rationale at the broader urban design scale, but also fine-grain architectural design resolution. Solutions are meant to be both innovative and realistic in terms of building codes, zoning regulations and the logic of the local real estate market.

While ubiquitous McMansion developments now dominate greenfield sites everywhere, this studio, focusing on the Hazelwood LTV brownfield site, will, at the master plan scale, focus on mixed-use development and housing aligned with smart growth strategies and transit oriented development. Multi-family housing projects will range from single-house clusters to row-houses, terrace houses, party-wall and large-courtyard housing, to urban high-rise towers and slabs including mixed-income housing, dormitory housing for students, and short and long-term hotels for research fellows and visitors. Housing precedents will investigate international multi-family housing projects in the urban context by some of the greatest architects of the twentieth and twenty-first century.

These precedents will serve as a reference point and launch pad for the semester's work, during which we will focus on strategies for conceiving innovative urban housing, from the scale of the master plan (including the relationship of housing types to public, semi-public, and private space) to the conception of housing units (including the design of units that engage exterior space, provide sectional complexity, employ emergent technologies, etc.). We will investigate how human habitation can be physically, socially, ecologically and culturally integrated with the surrounding communities and region through innovative landscape, urbanism and infrastructure.

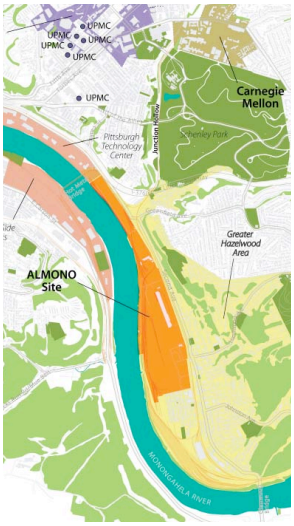


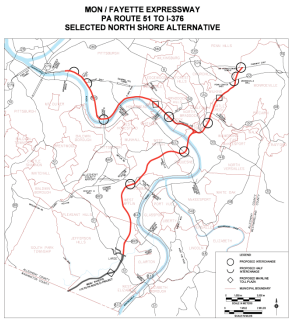
Hazelwood

SECTION: 48-500 ALL
COORDINATOR: Jonathan Kline

Studio C: Possible Publics

Professor: Rami el Samahy





As architects and urban designers, we spend a great deal of our time discussing public space, and contrast it with private space. But what exactly do we mean? Hanah Arendt's classic definition of the public sphere, articulated in her essay "the Human Condition," is characterized by three features: it is artificial, man-made rather than occurring in nature; it has a spatial quality, in that citizens require a physical space in which they can interact, disagree and search for solutions; and finally, it is distinct from private interests. Do these attributes still hold true today? More specifically, do they hold true to the particular conditions of the studio's site and possible users?

This studio section will explore the meaning of public as it relates to the urban realm, and defined broadly to encompass civic and cultural institutions, retail and office buildings, public space, and public infrastructure. Students will be encouraged to test various programmatic possibilities for the LTV site, including but not limited to the following: libraries, museums, post offices, shopping venues, parks, plazas, transit connections and depots. In short, we will examine the complex set of relationships between built and unbuilt things as they relate to the public sphere.

These public programmatic elements will be evaluated using three different approaches to urban design: the visual-artistic tradition, the social usage tradition, and the place-making tradition. Best exemplified by the work of Camillo Sitte (City Planning According to Artistic Principles) and Le Corbusier (La Ville Radieuse) – with radically different results – the visual-artistic tradition treats urban design as an extension of architecture, concentrating on its form rather than use and privileging product over process. The social usage tradition evolved as a reaction to the visual approach, among its key proponents Kevin Lynch who argued in The Image of the City that urban design should examine public perceptions of the urban environment and not just its physical form. Finally, the place-making tradition can be characterized by Peter Buchanan's essay "A Plea for Place in the Public Realm" in which he contends that "places are not just a specific space, but all the activities and events that make it possible."

As the site is developed, public design (of buildings, space and infrastructure) will play a crucial role in the development's success, both in terms of its ability to create a character and function for the new neighborhood as well as its capacity to establish links to the larger Hazelwood community. Additionally, two major transit options are being considered, each with direct bearing on the site. The first is a light rail system that would connect the site directly to the Oakland university communities, thereby radically compressing the time (and consequent psychological distance) between Oakland and Hazelwood. Such a system would require not only design of the route but also the stations themselves. The second option is the controversial extension of the Mon-Fayette Expressway, which would divide the LTV site from Hazelwood and place enormous pressure on Second Avenue, Hazelwood's main commercial corridor. Solutions to this possibility must include an architecturalizing of the infrastructure, by providing beautiful and useful alternatives to the proposed route. As in all other aspects of this studio, students are encouraged to use their design skills in concert with newly gained comprehension of design's social impact to contribute in a meaningful way to the urban fabric.

Appendix G _ Undergraduate Course Descriptions

APPENDIX G _ UNDERGRADUATE COURSES 2005 - 2007

DESIGN

S	R	48-100	Architecture Design Studio: Form	Damiani	F05
S	R	48-105	Architecture Design Studio: Space	Cooper	S06
S	R	48-200	Architecture Design Studio: Composition	Gutschow	F07, F06, F05
S	R	48-205	Architecture Design Studio: Materials	Gutschow	S07, S06
S	R	48-300	Architecture Design Studio: Site	Mondor	F07, F06, F05
S	R	48-305	Architecture Design Studio: Advanced Construction	S.Lee	S07
S	R	48-305	Architecture Design Studio: Advanced Construction	S.Lee	S06
S	R	48-400	Architecture Design Studio: Occupancy	Bartos	F06, F05
S	R	48-400	Architecture Design Studio: Occupancy	Akin	F07
S	R	48-405	Architecture, Design & Systems Integration	Bartos	S07, S06
S	R	48-500 / 48-705	Architecture Design Studio: The Urban Laboratory	Kline / Hutzell	F07
S	R	48-505 / 48-706	Studio X	Hutzell	S07

IT	E	48-289 - 499	Passport	Ball - Briggs	F07
IT	E	48-576	Mapping Urbanism	Hutzell	F07, S07, F05
IT	E	48-577	Contemporary Middle Eastern Cities	El Samahy	F07, S07
IT	E	48-579	Contemporary London Architecture	Ryan	S06
IT	E	48-587	Architectural Lighting Design	Limauro	S07, S06
IT	E	48-588	Synergistic Form	Rosenblum	F06
IT	E	48-588	Contemporary Architectural Theory	Rosenblum	F07
IT	E	48-595	Under the Influence: Architecture and Art	Rosenblatt	S07, S06

DRAWING AND MEDIA

M	R	48-120	Introduction to Digital Media I	Burns	F07, F06, F05
M	R	48-125	Introduction to Digital Media II (+ 3 lab sessions)	Burns	S07, S06
M	R	48-130 / 48-132	Architectural Drawing I: A Tactile Foundation	Cooper	F07, F06, F05
M	R	48-135 / 48-137	Architectural Drawing II: Appearance	Cooper	S07, S06
M	R	48-230 / 48-232	Architectural Drawing III: Perspective	Cooper	F07, F06, F05
M	E	48-355	Drawing Elective	Suhrbier	F07
M	E	48-477	Patterning: Third Generation Digital Design	Burns	S07
M	E	48-560	Computer Modeling III	Krishnamurti	F05, F06
M	E	48-570	Parametric Design (Maya / Rhino / RP)	Burns	F05

HISTORY

H	R	48-240 / 79-227	Arch History I: Survey World Arch + Urbanism	Shaw	F07, F06, F05
H	RS	48-343 / 79-471	The American Built Environment Since 1860	Shaw	F07
H	RS	48-348	Architecture of Central & South America	Shaw	F06, F05
H	RS	48-440	American Regionalism	Shaw	S07
H	RS	48-447	History and Preservation	Shaw	S07
H	RS	48-340	Modern Architecture and Theory 1900-1945	Gutschow	F07, F06, F05
H	RS	48-341	History of Architectural Theory	Gutschow	S06
H	RS	48-441	Frank Lloyd Wright & Modern Architecture	Gutschow	S06
H	RS	48-344	Architecture of Henry Hornbostel	Rosenblum	S07, F05
H	RS	48-448	History of Sustainable Architecture	Rosenblum	S06
H	RS	48-433	The Destruction and Rebuilding of Iconic Buildings and Cities	Coohill	F07, S07
H	RS	48-338	European Cities in the XIX Century	Torello	F07

BUILDING TECHNOLOGY

BT	R	48-115	Physics for Architecture (plus recitation)	Reid	S07
BT	R	48-210	Statics	Oppenheim	F07, F06, F05
BT	R	48-215	Materials and Assembly	S. Lee	S07, S06
BT	R	48-217	Structures	Oppenheim	S07, S06

DB	E	48-456 / 12-605	Design and Construction with CIT	Cartwright	S07
DB	E	48-474	Digital Fabrication Lab Construction	Ficca	F07

DB	E	48-513	Digital Fabrication: How to Make Things	Gross	S07, F06, S06
DB	E	48-570	Making Furniture Interactive	Gross	F07
DB	E	48-787	Architectural Robotics	Gross	S07
DB	E	48-520	Home 2020	Do/Gross	S05
DB	E	48-564	Design-Build Shop Elective	Smith/Boykowycz	F04
DB	E	48-564	Design-Build Shop Elective	Smith	S07, F06
DB	E	48-565	Exploration in Design and Construction of Practical Objects	Smith	S06
DB	E	48-565	Model Making In Wood: Barns of W PA	Smith	F05

ENVIRONMENTAL TECHNOLOGY

E	R	48-312 / 317	Site Engineering and Foundations	Mondor	F07, F06, F05
E	R	48-315	Environment I: Climate and Energy	Loftness	F07, F06, F05
E	R	48-410 / 48-726	Environment II: Acoustics and Light	Lam	F06, F05
E	R	48-412	Environment III: Mechanical Systems	Mattern	F07, F06, F05
E	R	48-415	Advanced Building Systems	Hartkopf	S07, S06
E	E	48-572 / 48-752	Zero Energy Housing	S Lee	F05
E	E	48-596	LEED Buildings and Green Design	Aziz	S07, S06
E	E	48-722	Building Performance Modeling	Lam	F07
E	E	48-729	Productivity, Health and the Quality of Buildings	Loftness	F07

PRACTICE

P	R	48-351	Human Factors in Architecture	Mondor	S07, S06
P	R	48-452 / 48-725	Real Estate Design & Development	Minnerly, M.	F07
P	R	48-550	Issues of Practice	MacDonald / Lee	F07, F06
P	R	48-453	Urban Design	Rico-Gutierrez	S07, S06
P	R	48-551	Ethics and Decision Making in Architecture	Akin	S07, S06
P	E	48-568	Advanced AUTOCAD & 3D Visualization	Kurland	F07, F06, F05
P	E	48-569 / 48-781	GIS / CAFM	Kurland	S07, S06

Undergraduate Courses

DESIGN

48-100	**Architecture Design Studio: Form**
48-105	**Architecture Design Studio: Space**
48-200	**Architecture Design Studio: Composition**
48-205	**Architecture Design Studio: Materials**
48-300	**Architecture Design Studio: Site**
48-305	**Architecture Design Studio: Advanced Construction**
48-305	**Architecture Design Studio: Advanced Construction**
48-400	**Architecture Design Studio: Occupancy**
48-400	**Architecture Design Studio: Occupancy**
48-405	**Architecture, Design & Systems Integration**
48-500 / 48-705	**Architecture Design Studio: The Urban Laboratory**
48-505 / 48-706	**Studio X**
48-289 / 48-499	**Passport**
48-576	**Mapping Urbanism**
48-577	**Contemporary Middle Eastern Cities**
48-579	**Contemporary London Architecture**
48-587	**Architectural Lighting Design**
48-588	**Synergistic Form**
48-588	**Contemporary Architectural Theory**
48-595	**Under the Influence: Architecture and Art**

48-100 Architecture Design Studio: Methods and Transformation in Form

Methods and Transformation in Form is the first course in the design studio sequence. As such, it establishes the foundation of exploration into the design and development of architectural systems, and provides the fundamental abilities required to represent ideas, form, and language.

The semester is divided into two halves: The first half of the semester is devoted to observations and formal manipulation of systems from natural specimens. Students document, diagram, and map out these systems initially, also taking note of spatial/temporal quality of natural systems. The design process then shifts into methods of transformation to turn these observed systems into dynamic systems of architectural syntax that are authored by the students. Similarly, the second half of the semester is devoted to observations of specific landscape environments. Students are asked to quantitatively map elements and relationships between elements that begin to define the use and ambient qualities of the natural environment (re: movement, light, etc.). Students are then given a program to be adapted to these environments using mappings as a primary formal design catalyst.

48-105 Architecture Design Studio: Methods and Transformation in Space

The spring semester, *Methods and Transformations in Space* of the first year architecture program extends from experiences in the fall semester *Methods and Transformations in Form*. Architecture as a spatial practice is introduced. Design projects evolve from previous studies of structure surface and volume in plant and landscape paradigms. Systems and sequences previously explored in nature are developed in cultural contexts through a progressive series of projects. Mapping human behavior and studying architectural precedents create spatial temporal experiences and narratives. Architectural and interdisciplinary analyses launch each project as a vehicle for generative design strategies. Fluid connections between drawing (freehand and drafted) and modeling (physical, computer, and wood shop) are continued. The semester is divided into three primary design projects:

WOODSHOP: The studios explicit relationship to the woodshop is expanded in this course. Students are required to illustrate ability throughout a complete design build process. The design, development, documentation, and ultimate construction of a piece of furniture requires addressing human scale, structure, and the nature of materials and connections. The development includes freehand drawing, model building, digital modeling, and digital documentation of working drawings.

ROOM (Private) INTERIOR: This project introduces a group research project of architectural precedents as its analytical catalyst. The study of an interior space focuses the transition from form to that of space. Students are required to address human scale through a series of postures and their relationship to natural environmental systems. The process includes freehand drawing, model building, shade and shadow, digital modeling, and drafting.

PLACE (Public) BUILDING: This project uses, interdisciplinary, cultural research as its analytical formal catalyst. The study of a public infill building establishes architecture within an urban context and requires ability to create spatial sequences of public / private programmatic function. The process includes freehand drawing, model building, shade and shadow, digital modeling, and drafting.

48-200 Architecture Design Studio: Composition

This studio is an introduction to architectural language and composition stressing concept generation and development, design process, and spatial experience. Understanding the compositional principles which characterize the buildings of the past and present, and applying them with intent and significance in the design studio are the central thrusts of this studio.

Building on the 1st year studios that explored "Methods & Transformations in Form & Space," the studios in the 2nd year will explore design problems that investigate the complexity and integrated nature of the architectural object and the architectural design process. We will explore the *artistic, conceptual, poetic, creative, and experiential* side of architecture as a way of developing ideas on architectural form and space making. By becoming and remaining conscious about the process that is architectural design, and developing methods, parameters and alternatives that shape architectural form, we will explore issues such as contextualism, expression, perception, experience, and representation.

48-205 Architecture Design Studio: Materials

This studio is concerned with more in-depth understanding and development of designs for small-scale buildings informed by the technical knowledge related to materials and the act of construction. The creative opportunities and design implications of using varied materials, structural systems, and assembly techniques are elaborated. The studio and the lectures focus on the application and integration of knowledge acquired in parallel “Materials & Assembly” course.

Building on the Fall “Composition” studio 48-200, this studio is concerned with the development and refinement of architectural design skills as informed by the aesthetic and experiential knowledge related to the meaning of materials (WHY?) and the technical knowledge related to the use of materials and the processes of construction (HOW?). We will explore how attention to materials, assembly systems and construction processes can and should influence the architectural design process and results, especially in determining the *artistic, conceptual, poetic, creative, and experiential* aspects of architecture.

48-300 Architecture Design Studio: Site

Design Studio III: Building and Site is a required course taught in the third year. The subjects of the Third Year Fall Semester are the reciprocal orders of buildings and landscapes and the development of the building site. The work builds on knowledge gained in prerequisite and co-requisite courses including 48-317 Site Engineering.

48-305 Architecture and Advanced Construction

The pedagogical aim of this studio is **the investigation of the salient role of structure and its construction in the architectural work.** As a means of realizing this goal, work in the studio focuses on analysis and adaptation of the structure of **structural forms found in nature**, as well as that of **prototypical structural forms** utilized in the enclosure of large architectural spaces. The adaptation of prototypes will include the development and refinement of designs of building assemblies and construction details proposed in response to constraints of statics, material performance, building physics, constructability and ecological sustainability.

48-305 Architecture Design Studio: Advanced Construction

The basis for the CMU studio course sequence is the expectation that the student retains and applies knowledge gained each semester to current assignments in the studio. The spring semester of the third year of architectural studies at Carnegie Mellon University is concerned with the detailed development and refinement of an architectural design as informed by the technical

knowledge of structural systems, enclosure systems and the process of construction. The student is expected to work in teams and to articulate concepts and develop designs with more precision and in greater detail than done in previous studios and courses. In addition to criteria related to the development of design skills appropriate to one's sixth semester of the studio sequence, the following criteria are an explicit part of the evaluation of the student work:
Aesthetics: The degree to which the design responds to formal issues as articulated in prior design studios.
Structural System: The degree to which the proposed building is presented as a statically stable structure that defines the spatial order and satisfies the architectural intentions made explicit in the project.
Enclosure System: The degree to which the proposed enclosure system satisfies the design requirements and responds to the physical phenomena of the environment into which it is placed.
Material Selection: The degree to which the selected building materials and their implementation are appropriate to the occupancy, articulate the architectural order, and satisfy the physical design requirements.
Constructability: The degree to which the proposed building is developed in response to an understanding of the processes of construction.
Presentation: The clarity, craft and completeness of the presentation.

48-400 Architecture Design Studio: Occupancy

The Occupancy Studio raises a designer's involvement with human needs, functional and space programming, building planning and schematic design with its focus on the relationship of the building user (owner/client, occupant or visitor) to the built environment. At the crux is how an architect develops a methodology to understand the individual or aggregated occupant and assemble decoded, distilled and articulated criteria for the design of space. Studios may emphasize intellectual or theoretical approaches to user-based design, in-depth study of client needs resulting in a detailed program, or participatory design with a real or surrogate client such as a community group. Each semester offers a range of such ideas. Studio faculty varies building typology, conceptual approach, programming studies or development and historical precedent. Studios share information and project knowledge with each other. This healthy mix enlivens design process and class participation. An important aspect of the Occupancy studio and the following Systems Integration studio is understanding the application of codes and zoning requirements, which students research themselves after attending lectures on the basics of life safety, egress and the intrinsic order of code applications. Students are encouraged to work both in teams and as individuals.

48-400 Architecture Design Studio: Occupancy

The most common and arguably the most important rationale for the existence of architects and architecture has been the accommodation of the occupants needs in *places* they design and build. This studio examines the critical relationship between occupants, and their needs, the expression of these needs, their translation into architecture, and the significance of all of this for architectural discourse.

This studio is interested in understanding user requirements and how they are employed in the design and use of buildings. Sociological, psychological, and physiological factors that influence users are relevant to this understanding. The "social" context of the design project is situated in the context of clients, users, financiers, and other professional consultants that help define this scope. Students are expected to understand these constituent groups and transform their requirements into physical design.

In this studio, a complex building program is employed (such as, a medical facility, a courthouse, or a high-tech building type with no less than 70,000 sf floor area). At a minimum, students are required to develop a detailed architectural program or to refine and revise such a program. Design proposals are required to be unabridged responses to the architectural program with explicit accommodation of aesthetic, functional, and construction issues.
Team design, participatory design, and user based design approaches are relevant to the agenda of this studio. Specific methods of architectural programming and post-occupancy evaluation should be used to better understand design requirements and their effective application.

In addition, the course is intended to fulfill a number of other educational objectives: sensitizing students to the social context of buildings, using computers and multi-media in the development and presentation of designs, and building students' confidence in their abilities to innovate with new design trends.
At the time they start this studio, it is assumed that students have been prepared to deal, competently, with architectural composition, building construction, and site design. The relationship of this studio with other required courses in the undergraduate curriculum, in particular 48-351 Human Factors in Architecture, is critical to its delivery.

Four individual studios, led by independent instructors, constitute the core of the instruction. See descriptions of each studio for a detailed rendition of course objectives.

48-405 Architectural Design Studio: Systems Integration

In today's climate of complex clients and large-scale architecture, design students research and discuss broad political, economic, infrastructure, management and operational systems. Following this theme and in the students' quest of building integration, they examine the complex interrelationships between performance criteria, building subsystems and their integration, specification, and evaluation. This studio is concerned with the detailed design development relating to the spatial, visual, acoustic and thermal performance of complex buildings as well as the long-term integrity of the integrated systems. Students achieve design integration of at least two building systems and their interdisciplinary objectives - structure, enclosure, interior, mechanical, communications and information, and the safety systems--addressing issues of constructability and technical innovation while combined with suitability to the user, studied in the previous semester of Occupancy.

48-500 / 48-705 The Urban Laboratory: Community and Urban Design Studio

The Urban Laboratory is a studio based outreach program in which teams of students work with community members to craft innovative design visions for a neighborhood in the Pittsburgh Region. Our approach to urban design and planning engages the city as an integrated design problem, which is best solved through a participatory design process. Emphasizing both community empowerment and cutting edge urbanism, we work towards a more sustainable, just and beautiful city.

48-505 / 48-706 Studio X

This required fifth-year final semester design studio serves as a pilot for a thesis program, focusing on independent projects. Students propose their own project and site, and chose a faculty advisor from within the School of Architecture. Adhering to a typical studio structure, students meet with not only the studio instructor, but also their faculty advisor for one hour a week for twelve weeks.

48-289 Passport

Passport is a university wide, interdisciplinary course designed to encourage and facilitate student engagement in events across the College, the University and the City of Pittsburgh. Passport requires students to attend pre-approved lectures, workshops, exhibits, films, performances and various other events sponsored by the College, the University, or a variety of institutions and organizations in Pittsburgh.

Through direct experience, the primary intention of Passport is to engage students in contemporary ideas and debates, encourage and support interdisciplinary work and discourse, and to stimulate an active dialogue between a student's academic pursuits and their real world experience. Passport provides a structure and means for bringing new ideas and explorations into the creative and intellectual work of the students. Participating in Passport will strengthen student's critical thinking skills and provide them with a structure and foundation to further develop their interests in scholarship, research, practice and creative production.

Passport can be taken as a year long or semester course. Students will be required to attend 45 hours of pre-approved events. Students are free to choose the type and schedule of the events they attend, having over 75 events each semester from which to choose. Events will include dramatic performances, art, architecture and design exhibits, lectures and workshops sponsored by many disciplines, films, concerts and conferences. Additionally, students will be required to keep a journal of their passport experience and attend small, dynamic 1 hour discussion session every other week.

Passport is not just a course -- it's a cultural shift. Experiencing the world around you will undoubtedly transform you, your work and your thinking. Are you ready?

48-576 Mapping Urbanism

This upper-level elective seminar, open to all majors, examines urban history, urban theory, visual thinking and information design.

48-577 Contemporary Middle Eastern Cities

Contemporary Middle Eastern Cities is an elective course taught at Carnegie Mellon University's main campus in the Spring and Fall of 2007, and at the Doha branch campus in the Spring 2008.

The course examines a series of cities in the Middle East in a case study mode with an eye to a number of particular themes, including rapid growth, sprawl, migration, squatter settlements, as well as the urban effects of war, occupation and reconstruction.

Issues are looked at in both cultural context and physical form. Students are encouraged to look at large scale, regional effects of urbanization as well as smaller interventions within a given neighborhood, and to search for the interrelation between the two scales.

The course is designed to increase knowledge of the region's urban conglomerations and the ability to think about them critically, through both analytical writing and drawing.

48-587 Architectural Lighting Design

Through hands-on exploration in the light lab, lecture and discussion, students will develop a design process for lighting people and architecture. Topics will include:

- Role of the architectural lighting designer in the collaboration process
- Establishing design goals and a point of view
- Communicating design ideas
- Lighting interiors (retail, restaurants, offices, museums, hotels)
- Lighting exteriors (landscape, buildings, bridges)
- Technical tools (luminaires, lamps, control and dimming)

A large part of class time will be devoted to hands-on experimentation of light.
Students will also spend time in the light lab outside of class preparing realized lighting designs.

48-588 Synergistic Form

Synergistic Form is an interdisciplinary course engaging broad-ranging architectural, artistic and technological theory as a basis to create shared human spaces, virtual and physical. It takes inspiration from Modern movements including the Situationists, Constructivists, Metabolists and the Bauhaus. It will draw some structure from student research and presentations, investigating topics including imagined spaces, living cities, utopias, megastructures, ancient architecture, mythological space, and microscopic space. It will also cover readings that will include but not be limited to Gilles Deleuze, Michel Foucault, Fredric Jameson and Robert Smithson. This course derives from student-generated interests and depends on high levels of motivation, conceptual thinking and willingness to collaborate. The final project will be a collaborative work synthesizing research and creative work through the semester. This course presumes advanced knowledge of art and architectural theory.

48-588 Contemporary Architectural Theory I: Methodologies and Interpretations

Contemporary Architectural Theory is less of a description than a collection of three contentious terms. Current architectural discourse can search for innovative form or the mechanisms of meaning. More crucially, it can seek critical assessments of political, economic, and environmental forces. It may use the language of philosophy, literary and cultural criticism, economic and political analysis, popular culture or social activism. The purpose of this course is to read from the literature of the numerous methodological and disciplinary approaches that fit under the loose rubric of contemporary architectural theory to develop students' skills in critical thinking about and clear communication of the complexities of current architectural discourse. Authors will include but not be limited to Manfredo Tafuri, Kenneth Frampton, Fredric Jameson, Mary McLeod, Peter Eisenman, Beatriz Colomina, Rem Koolhaas, Sylvia Lavin and Sanford Kwinter. This course will operate as a seminar and depend significantly on student participation in discussions and presentations. It will include a significant section of student-suggested readings.

48-595 Under the Influence: Architecture and Art

Under the Influence: Architecture and Art is an elective course taught in the spring semester.

Many of the world's leading architects cite art and cinema and other cross disciplinary factors among their most significant inspirations. Rather than basing their successful architectural practices on narrowly focused foundations, these architects boldly cross borders into the worlds of music, fashion, photography, film, art. New York architects Scofidio & Diller reference Marcel Duchamp, Rem Koolhaas and Herzog & deMeuron design for Prada, Peter Eisenman acknowledges the writings of Robert Morris among other artists, and Bernard Tschumi has based buildings on the editing principles of Sergei Eisenstein…The list goes on.

At the same time, many contemporary filmmakers look to architecture for their conceptual framework. Why are these artists and architects looking outside of their disciplines to cross over into each-others worlds for inspiration and direction? What are they learning and how are they applying their discoveries? What can we learn from these leading figures and how can we ourselves begin to cross borders to develop new working methods and approaches that will advance our own professional and creative processes? These are some of the questions that the course addresses.

The course syllabus is broader than found in any existing text treatment, but is supported by a section of readings and handouts prepared by the instructor and extracted from other sources.

DRAWING AND MEDIA

48-120	**Introduction to Digital Media I**
48-125	**Introduction to Digital Media II (+ 3 lab sessions)**
48-130 / 48-132	**Architectural Drawing I: A Tactile Foundation**
48-135 / 48-137	**Architectural Drawing II: Appearance**
48-230 / 48-232	**Architectural Drawing III: Perspective**
48-355	**Drawing Elective**
48-477	**Patterning: Third Generation Digital Design**
48-560	**Computer Modeling III**
48-570	**Parametric Design (Maya / Rhino / RP)**

48-120 IDM I, Introduction to Digital Media I

IDM is a required course for all first year architecture students. The course introduces students to a wide range of digital methods and concepts available to architects for design, representation, and documentation. The coursework is directly coordinated with Studio assignments providing the students with the opportunity to master their digital skills in a meaningful manner. Due to the amount of content covered there is no single text for this course, but the course is supported by materials created by the instructor.

48-125 IDM II, Introduction to Digital Media II

IDM2 is a required course for all first year architecture students. This course is the continuation of *IDM*. *IDM2* introduces students to measured drafting and the process of creating a construction drawing set. The coursework is directly coordinated with Studio assignments providing the students with the opportunity to master their digital skills in a meaningful manner. Due to the amount of content covered there is no single text for this course, but the course is supported by materials created by the instructor.

48-130 Architectural Drawing I: A Tactile Foundation

Architectural Drawing I: A Tactile Foundation is the introductory course in a sequence of three drawing courses required by the school of architecture for its professional degree program. It consists of exercises in free-hand perspective, orthographic drawing, and general life-drawing.

48-135 Architectural Drawing II: Understanding Appearance

Architectural Drawing II: Understanding Appearance aims at building students' understanding of projective geometry, understanding of the appearance of architecture and its' representation in light and color.

48-230 / 48-232 Architectural Drawing III: Perspective

Architectural Drawing III: Perspective emphasizes free-hand perspective skill and its' use as a design tool.

48-355 Architectural Drawing: Clearly Complex and Sublimely Simple

Architectural Drawing: Clearly Complex and Sublimely Simple is an elective course.
Architectural drawing techniques from sketchbook concepts to developed presentation drawings will focus this study of graphic communication.

This course will explore how the engaging presentation techniques currently available can be set on the foundation of crafted, considered architectural drawings. We will analyze, develop, construct, render, and compose drawings for the graphic communication of architectural idea and form. Lectures and seminars will explore precedents in architectural representation and in-class workshops each week will facilitate discussion and critique of drawing explorations and assignments. The final project will serve as a culmination of the semester-long study and will be a representation of individual design studio projects. This course focuses specifically on the combination and overlap of established architectural hand drawing and rendering techniques with digital manipulation, augmentation, and delineation.

48-477 Patterning – Third Generation Digital Design

The word "Pattern" is loaded. It holds distinct connotations in scientific, mathematical, and design disciplines. It could be defined as simply the "form and style in an artistic work or body of artistic works" and "a consistent, characteristic form, style, or method." Or, it could be defined in a much broader sense as the technique that enables us to understand form.

I am intrigued by the methods at which we, as architects and designers, create, edit and recognize pattern. Regardless of its form or the manner in which it was created, regardless of its medium, or its function, the intent of this exploration is to bring focus on our ability (or inability) to discern and exploit pattern.

I am interested in the unexpected results of misaligned patterns, the illusory, and the hallucinative. I intrigued by designed entropy. I am intrigued by the depth of the two dimensional through perspective, pattern, and perception.

48-560 Computer Modeling III

This course explores the role and significance of advanced visualization the design process, in doing so, projects from the current state-of-the-art to glimpses of the future. Advanced digital technology – in multimedia and virtual reality, through state-of-art modeling, animation, motion dynamics, compositing and video editing software – have provided the impetus to radically improve the human designer's ability to see and understand physical reality. A range of technical visualization skills together with the conceptual basis, make these capabilities meaningful and useful.

48-570 Parametric Design

Architecture has been superceded by our personal technological prosthetics. These systems are invisible, or at best, ephemeral, and mold the space we inhabit in a manner that architecture cannot imagine. When these networks function, our lives are seamless, our information omnipresent. When these informational constructs fail, we are hopeless, disconnected and primal. Embedded within these indiscernible networks is the perpetual threat of failure which is exploited in a society of avoidance and paranoia. The methodology of incalculable streams of conflicting information and gross exaggerations by talking heads create the real New (digital) Urbanism.

The work of this seminar engages these impenetrable networks, exposing the fissures and voids, but also mapping the spaces of saturation. How does an individual inhabit the areas of information congestion? Is there solace in the white noise of media excess? The students are invited to give form to these moments, strategies and situations.

HISTORY

48-240 / 79-227	**Arch History I: Survey World Arch + Urbanism**
48-343 / 79-471	**The American Built Environment Since 1860**
48-348	**Architecture of Central & South America**
48-440	**American Regionalism**
48-447	**History and Preservation**
48-340	**Modern Architecture and Theory 1900-1945**
48-341	**History of Architectural Theory**
48-441	**Frank Lloyd Wright & Modern Architecture**
48-344	**Architecture of Henry Hornbostel**
48-448	**History of Sustainable Architecture**
48-433	**The Destruction and Rebuilding of Iconic Buildings and Cities**
48-338	**European Cities in the XIX Century**

48-240, 79-227 (History) History of World Architecture
This foundation course is the first in the architectural history sequence, and introduces students to the subject and skills of world architectural history. It is a prerequisite for all subsequent architectural history courses.

48-343, 79-471 (History) American Built Environment Since 1850: City and Suburb
This course can be used to satisfy one of the core required courses in architectural history. It examines the history of the American built environment from approximately 1850 to 1950, paying particular attention to urban and suburban developments.

48-348 Architecture of Central America
This course can be used to satisfy one of the core required courses in architectural history. It is a chronological and thematic survey of architectural and urban developments in the Central America during three defining periods: Pre-Columbian, Spanish Colonial, and 20th-Century Modern.

48-440, 79-228 American Regions and Regionalism
In this course we will examine the historical development of regional patterns in the American built environment. Despite the leveling forces of mass culture and globalization, the geographic and social diversity of the U.S. has created distinctive regional mosaics of landscape and architecture. Say “New England” and images of English Pilgrims, town greens with white-framed churches, and industrial mill villages may come to mind. “The Southwest” conjures different images, perhaps of adobe pueblos, Spanish friars, arid ranches, and all things turquoise be it jewelry or painted house trim. The built environment of the Midwest, the Northwest, the Mississippi Delta, and many places in between reflect particular regional identities that have been both unconsciously and consciously created over time.

We will investigate how and why a region’s architectural identity evolved in the ways that it did. Although our focus will be primarily pre-20th century, we will also make forays into more recent trends of regionalism as a practice and as a theoretical stance.

48-447 History and Preservation
This seminar can be used to satisfy one of the core-required courses in architectural history. It is an introduction to the issues of historic preservation, including not only the traditional concept of architectural preservation but also the preservation of collective memory and history within the built environment.

48-340 Modern Architecture and Theory, 1900-1945
Modern Architecture and Theory 1900-1945 is an architectural history lecture course that surveys the modern buildings and literature of the first half of the twentieth century, focusing primarily on Europe but extending also to non-western countries. We

begin with a look at the "crisis of modernity" that plagued most of western civilization in the late 19th-century, and then focus on the major movements of both the avant-garde and other responses to modernity from 1900-1945.

48-341 History of Architectural Theory

History of Architectural Theory is an architectural history seminar that surveys in roughly chronological order some of the major theories and theoreticians of architecture, from Vitruvius, through the Renaissance, the Enlightenment, the 19th-century, up to the present. The final weeks of the course are dedicated to student presentations on "contemporary" (1945-present) theoreticians.

48-441 Frank Lloyd Wright and Modern Architecture

Frank Lloyd Wright and Modern Architecture is an architectural history lecture course that developed out of a Spring and Summer 1999 seminar and project course titled "Frank Lloyd Wright and his Taliesin Legacy." The present course investigates the career and legacy of the famous American architect Frank Lloyd Wright within the context of modern architecture. We attempt to understand the great variety of work and ideas produced by Wright over seven decades, as well as the context which stimulated and fed off of his designs.

48-344/444 Architecture of Henry Hornbostel (Architect of original CMU Campus)

This course addresses the architectural career of Henry Hornbostel (1867-1961) from the beginning of his architectural education at Columbia University in the late 1880s though his retirement from the profession in 1939 until the revival of interest in his work in the 1980s. Hornbostel studied at the Ecole des Beaux-Arts in Paris, which is reflected in his early work. Later designs incorporate the abstracting tendencies of the Streamline Moderne or Art Deco. Throughout his career, Hornbostel was consistently innovative, eclectic and not necessarily easy to classify, even though the Beaux-Arts label provides an easy way to pigeon-hole (some of) his work.

Interest in Hornbostel often begins with his buildings on campus. Many consider the CFA building Hornbostel's masterpiece. Nearby, Hornbostel designed the Rodef Shalom Synagogue, the Soldiers' and Sailors' Memorial, the Schenley Apartments, Webster Hall and a number of buildings for the University of Pittsburgh in Oakland alone. Downtown, the City County Building, the Grant Building and the German Evangelical Protestant (now Smithfield United) Church are also prominent elements in his corpus.

Not simply a "Pittsburgh architect," Hornbostel enjoyed national prominence in the profession during his career. He consistently won design competitions for prestigious commissions throughout the country in New York, Ohio, West Virginia, Georgia, Illinois and California.

Hornbostel died in 1961, Modernism's heyday, so he was largely forgotten. There is only a single monograph on Hornbostel and a comparatively small bibliography of recent publications. The exciting counterbalance to this dearth of secondary literature is the presence of many nearby significant built works and major archives of original drawings and other documents at CMU. These play a role in the course.

48-448 History of Sustainable Architecture

While the Modern Age has created a view of nature as separate from the built environment, relatively recent advances in theory and practice of environmentally conscientious or sustainable architecture have led architects and other designers to think otherwise. Architecture separate from environmental considerations is a luxury that we can't afford and shouldn't desire. In fact, architecture separate from nature is an unusual outlook specific to the Industrial Revolution and its adherents. Before industrialization, rich, disparate and changing concepts of nature were fundamental elements in understanding the both the theory and practice of building. Furthermore, even though many Modernist historians have proposed the factory and the machine as ideal models for building, some critics and detractors in architecture, landscape design and city planning even during the era of industrialism have frequently provided intellectual counterpoint or direct social protest to the despoiled cities and landscapes that have too often been the by-products of the industrial mindset. The purpose of the History of Sustainable Architecture is to examine designs and texts created either before or in response to the Industrial Revolution that productively inform today's renewed efforts to build with minimal impact of the natural environment. Materials will be drawn from ancient Rome, Renaissance Italy, Enlightenment France, nineteenth century Germany, England and Italy, as well as numerous twentieth and twenty-first century examples.

48-433 The Destruction and Rebuilding of Iconic Buildings and Cities: a Cultural Examination

This course examines the issues of the destruction and reconstruction of buildings and cities. In doing so we will be raising questions about the nature of architecture and cityscapes, cultural loss and cultural recovery, and how buildings and cities have come to represent other issues such as national identity and progress. We will take a multi-cultural approach, looking at European architecture, American architecture, West African Islamic architecture, and Chinese architecture, as well as working with the following architectural styles: classical, gothic, baroque, Islamic adobe, Chinese imperial, modern, and post-modern. We will examine the following case studies:

- The burning and rebuilding of the US Capitol and the White House during the War of 1812.
- The burning and rebuilding of the British Houses of Parliament in the 1830s and 1840s.
- The looting and destruction of the Summer Palace in Beijing in 1860, and questions about its subsequent reconstruction.
- The multiple destructions and reconstructions of the Mosques of Djenné in Mali during the 19th and 20th centuries.
- The bombing of Dresden during World War II and its subsequent rebuilding up to the twenty-first century.
- The destruction of, and rebuilding plans for, the World Trade Center in New York in the 21st century.

48-338 European cities in the XIX century: planning, architecture, preservation

The history of the main cities of Europe during the XIX century is a history of change and transformation. The physical environment and the political, financial and administrative structures adapt to the needs of new masses of population and to the challenges of metropolitan life, and in some cases to new representative functions, as a city becomes a national capital.

The course explores the urban culture of XIX century Europe, focusing on the planning and realization of these transformations, together with some aspects of the debate on architecture and preservation.

BUILDING TECHNOLOGY

48-115	**Physics for Architecture (plus recitation)**
48-210	**Statics**
48-215	**Materials and Assembly**
48-217	**Structures**
48-456 / 12-605	**Design and Construction with CIT**
48-474	**Digital Fabrication Lab Construction**
48-513	**Digital Fabrication: How to Make Things**
48-570	**Making Furniture Interactive**
48-787	**Architectural Robotics**
48-520	**Home 2020**
48-564	**Design-Build Shop Elective**
48-564	**Design-Build Shop Elective**
48-565	**Exploration in Design and Construction of Practical Objects**
48-565	**Model Making In Wood: Barns of W PA**

48-115 Physics for Architecture

Physics is a basic science, typically taught by the College of Science. Physics for Architecture was introduced in Spring, 2005 to best address the academic needs of students in the School of Architecture. It is taught as a science course that provides an emphasis on the physics topics most essential to architecture.

48-210 Statics

Statics is a required course taught in the second year. Calculus and physics are prerequisites, and Statics is then a prerequisite for Structures. The course covers the portion of engineering mechanics that deals with forces in space, and specifically the reactions and internal forces in structures.

48-215 Materials and Assembly
The fourth semester of architectural studies at Carnegie Mellon University is concerned with the detailed development and refinement of architectural design as informed by the technical and aesthetic knowledge related to the meaning and usage of materials and the act of construction. This is the fourth lecture course of the technology sequence and focuses on the principles of building construction utilizing contemporary systems. Materials and Assembly, taught in parallel with the design studio and Structures I, allows in - depth exploration of the fundamentals of contemporary construction systems, while the studio provides a simultaneous setting for the application and synthesis of this knowledge.

The materials science content of the course examines construction materials with regard to their process of manufacture, their physical properties, their environmental performance and their methods of selection and specification. The assembly content of this course examines the selection, design, preliminary sizing and methodology of construction systems in wood, masonry, steel, sitecast concrete and precast concrete, including the applicable fundamentals of enclosure systems.

48-217 Structures
Structures is a required course taught in the second year. It is a successor course to *Statics*, complementing that previous course by emphasizing structural member design, spatial synthesis of structural systems, exploration of structural types, interaction with other building functions, and an introduction of codes and standards in actual design practice. The course syllabus is broader than found in any existing text treatment, but is supported by handouts prepare by the instructor and extracts from other sources.

48-474 Digital Fabrication Lab Construction
This course will use the newly created Digital Fabrication Lab as the site for a series of material specific functional installations intended to prepare the facility for broader student and faculty use in the spring semester. Conceived primarily as a design-build workshop, students will work closely with the instructor on design and fabrication, utilizing tools in both the digital fabrication lab and shop. Over the course of the semester students will develop an understanding of various digital fabrication processes and critically engage topics of craft, customization and economy. First and foremost, this is a course devoted to the act of individual and collective making. Given the design-build nature of the course and the reliance upon digital media, students are expected to be comfortable with the use of power tools and be proficient with digital modeling.

48-513 Digital Fabrication
We will explore, through a series of short exercises, methods and tools for making things with a variety of new media and tools, potentially including, but not limited to, laser-cutting, folding, and assembling flat materials; molding and casting plastic resins, making mechanical movement, fabric and tensile structures, and embedded electronics. Experience with computer modeling applications (e.g., Rhino, Maya, AutoCAD, Illustrator) is a plus, the course will require, but not teach, skill in using 2D and 3D design software. However, the main pre-requisites for this course are enthusiasm, playfulness, and time.

48-570 Making Furniture Interactive
In this hands-on design-build class you will learn the skills to embed sensors and actuators (light, sound, touch, motion, etc.) into everyday furniture (tables, chairs, etc.) and to program the interactive behavior of this furniture with a microcontroller. Through weekly exercises the class will introduce simple analog electronics and programming, as well as exploration into using kinetics and materials to make the furniture you design perform. No experience is required but please note that the class demands that you master technical material. Emphasis will be on creating innovative experiences using simple robotic technologies. (Participants will provide their own supplies and materials.)

48-787 Architectural Robotics
Hands-on course introducing elementary robotics as applied to buildings.

48-520 Home 2020

Home 2020, a studio course for upper level undergraduates, considers the architectural, technological, and societal questions surrounding the "home of the future". It is part of a constellation of courses that includes a graduate studio (48-710) on the same topic as well as courses for non-major students (48-505) to participate in thinking about the future of the home built environment in a design workshop setting. This multi-disciplinary perspective enriches the scope of the studio and brings additional expertise and knowledge to bear on the problem, and offers architecture undergraduate students the opportunity to work closely with students from other disciplines.

48-564 Design-Build Shop Elective

This elective course involves the design and execution of a small project for a client who meets non-profit qualifications. Construction is organized to include shop work and site work as appropriate to the project. Tools are provided through the School of Architecture Shop whose director is one of the course instructors. Zoning and Building Code approval is included as part of the course lecture schedule.

48565 Independent Study: Innovative Storage Systems

Innovative Storage Systems aims to investigate solutions for efficient storage in tool rooms. This is a difficult problem due to the variety of shapes that tools have and the practical need to access them quickly. Research into proper storage is important to the function of any working environment. It is our goal to collaborate with the *Society for Contemporary Craft* to develop a unique solution in their space.

48565 Model Making in Wood: Barns of Western Pennsylvania

Despite rampant suburban sprawl in Western Pennsylvania, twenty-nine of the thirty-three counties in this half of the state are classified as rural, and agriculture remains a leading industry. Barns are thus an important component of this region's landscape, as well as extremely evocative icons in the popular mind. This exhibition traces the development of barns in the region from the late 18th century to the present through an exploration of their forms, functions, technological evolution, and role as barometers of change in the agrarian economy.

The Heinz Architectural Center's first exhibition to focus on a single vernacular building type, *Barns of Western Pennsylvania* will present a wide variety of objects to reveal the complexity of a deceptively straight forward building form. Models, photographs, barn-building tools, examples of barn decorations, replicas of the intricate joinery that accounts for the remarkable stability of barns, farm journals, and architectural pattern books are among the artifacts that document barns' evolution from simple log structures to the large, often stately edifices that continue to be significant landmarks on the rural scene. The exhibition also demonstrates the ways in which this everyday building type recently has been adapted and transformed for non-agricultural uses, thus linking tradition to the contemporary.

--Provided by Lu Donnelly, principle show organizer

This course will continue a history of successful collaborations with the Heinz Architectural Center. In 1994-95 students constructed three elaborate hardwood models of Palladian inspired villas to accompany a show titled "Architecture in a Well Ordered Universe, Lord Burlington and the Chiswick Villa ". In the Spring of 1997 CMU Architecture students also constructed three hardwood models of residences built by a local architect who studied with Mies van der Rhoe for the show, "James Speyer, Architect, Curator, Exhibition Designer". This fall students will again construct hardwood models for the HAC.

ENVIRONMENTAL TECHNOLOGY

48-312 / 317	**Site Engineering and Foundations**
48-315	**Environment I: Climate and Energy**
48-410 / 48-726	**Environment II: Acoustics and Light**
48-412	**Environment III: Mechanical Systems**
48-415	**Advanced Building Systems**
48-572 / 48-752	**Zero Energy Housing**
48-596	**LEED Buildings and Green Design**
48-722	**Building Performance Modeling**
48-729	**Productivity, Health and the Quality of Buildings**

48-312 / 317 Site Engineering and Foundations

Site Engineering and Foundations is a required course taught in the third year. It is a companion course to the Site Studio (48-300) and covers materials related to the issues of surface and its manipulation (grading, road alignment and stormwater), soils (fundamentals of soil mechanics) and structures (fundamentals of foundation design). Students are introduced to the conceptual fundamentals, exposed to applications in the field, and develop skills which are demonstrated in this class and in their studio work. The course syllabus is broader than found in any existing text treatment, but is supported by one required textbook, two recommended texts and excerpts from other sources.

48-315 Environmental Systems/ Energy in Buildings

Environmental Systems is a required course taught in the third year. This course introduces architectural design responses for energy conservation, human comfort, and the site-specific dynamics of climate. Students are expected to combine an understanding of the basic laws of comfort and heat flow with the variables of local climate to create regionally appropriate energy design guidelines for their projects. The state of the art in building energy conservation and passive heating and cooling technologies, as well as the emerging field of sustainable design are presented, with take-home readings and assignments.

48-410/48-726 Environment II: Acoustics and Lighting

This course introduces theoretical foundations and computational methods in architectural acoustics and lighting. Topics in acoustics include: a) review of physiological and psychological acoustics; b) computation of outdoor and indoor airborne sound propagation; c) interaction of air-borne and structure-borne sound with building structures; d) sound transmission between rooms; e) design methods in room and building acoustics; f) fundamentals of vibration control; g) application of computer-aided simulation tools in building and room acoustics. Topics in lighting include: a) review of visual comfort criteria and lighting psychology, b) analytical and numeric methods for the computation of lighting conditions in interior spaces, c) application of computer-aided lighting simulation tools in architecture, d) lighting engineering and design methods.

48-412 Mechanical Equipment

Mechanical Equipment is a study of the mechanical systems required to heat, cool, ventilate, wire and plumb a building. Students will focus on energy usage and savings for buildings along with a look at the various system types and equipment used – past, present, and future. The course parallels the AIA review class for the professional license examination, and should become a future study guide for the exam.

48-415 Advanced Building Systems Integration

Advanced Building Systems is a required course taught in the fourth year with a direct connection to the studios emphasizing systems integrations. This course introduces the concept of Total Building Performance[1], delineating the full range of performance mandates required for today's architecture, including building integrity.

48-572/752 Zero Energy Housing

This course will take a fresh look at contemporary housing design and delivery process in response to global, regional and local frameworks. From climate change, to power deregulation, to suburban sprawl to the rapid proliferation of information technology, change is occurring at a more rapid pace than at any other time in our history. Yet, the housing industry is a fragmented, multi-headed beast in which change is slow to occur, if at all. Our houses of today are not meeting the needs of the users, nor are they performing as good "global" citizens. Japan and the European Community, faced with higher energy costs and high density housing conditions, have been leading the way globally with innovative ideas and financial incentives to produce more sustainable housing. This course will examine issues of design, technology and construction process related to high performance housing including renewable energy systems. Students will learn to use both manual and computer-assisted methods to quantify the performance of the houses that they design.

48-596/795 Green Building Concepts and LEED™

Green building and sustainable design have been rapidly gaining acceptance in all sectors of the building market. Global issues of energy use, emissions, resource depletion, and land use are forcing building professionals to re-evaluate standard design and construction processes, and look to more environmentally friendly practices.

The U.S. Green Building Council (USGBC) developed a green building rating system entitled Leadership in Energy and Environmental Design (LEED™) in order to define "green building" by establishing a common standard of measurement. LEED™ considers green building methods and technologies in several categories including site, water, energy, materials, and indoor air quality, and awards points towards an overall green building rating of certified, silver, gold or platinum. Currently, LEED™ registered projects make up 3% of the current U.S. commercial building market, and Pennsylvania is the third leading state with LEED™ registered projects. There is now a demand for design professionals with knowledge and experience not only in sustainable design but specifically with the LEED™ rating system as well.

This course will provide students with background knowledge of the USGBC, the LEED™ system, as well as referenced standards related to specific topics. The course will benefit greatly from the large number of LEED™ projects in the Pittsburgh region, which will serve as case studies. Upon completion of the course, students will be prepared to take the LEED™ Professional Accreditation Exam, which is quickly becoming the standard of recognition for green building professionals.

48-722 Building Performance Modeling

This course introduces fundamentals and computational methods in building performance modeling, with special focus on thermal and energy performance modeling. Computational tools introduced in this course include Green Building Studio, eQUEST, Design Builder and EnergyPlus.

48-729 Energy, Productivity, Health and the Quality of the Built Environment

Given the growing demand for green buildings by federal and private sector clients, professional practices are "tooling up" all over the world to deliver high performance, environmentally responsive, "green" buildings and communities. However, investments in green, high performance building solutions and technologies are still limited by first cost decision- making, and life cycle tools are still largely inaccessible to professionals. A new building investment decision support tool – BIDS™ - has been developed by the NSF/IUCRC Center for Building Performance at Carnegie Mellon University, with the support of the Advanced Building Systems Integration Consortium. This cost-benefit decision support tool presents the substantial cost-benefits of a range of advanced and innovative building systems designed to deliver – privacy and interaction, air quality, ergonomics, lighting control, thermal control, network flexibility, and access to the natural environment - from field case studies, laboratory studies, simulation studies, and other research efforts.

PRACTICE

48-351	**Human Factors in Architecture**
48-452 / 48-725	**Real Estate Design & Development**
48-550	**Issues of Practice**
48-453	**Urban Design**
48-551	**Ethics and Decision Making in Architecture**
48-568	**Advanced AUTOCAD & 3D Visualization**
48-569 / 48-781	**GIS / CAFM**

48-351 Human Factors

This course explores how human factors influence the design, construction and occupancy of the spaces we create. More specifically, we will consider the relationships between architecture and our bodies and our senses. We will study how the spaces we occupy affect our perception of ourselves and others. We will examine how we respond to the provocations of form and spaces with our behavior and our social relationships. We will also explore how these relationships have influenced the formation of architectural theory.

This course presents concepts in increasing scales—from the body to the urban setting—and addresses physical phenomena as well as the formation of values in regards to the built environment. The coursework will sensitize students to issues, expand their understanding of the topics, and develop skills that they can implement in their projects. Most importantly, it is hoped that the themes of this course will influence the direction and decisions of their future practices.

48-452/725 Real Estate Design and Development

The course will develop the student's understanding of the economic forces that impact building design decisions in the real estate development process. The course will introduce students to the drivers of the development process, their relationship to the design process from initial site selection through operations, with the goal of exploring the impact design decisions have on financial performance. This investigation will integrate industry practitioners to simulate a real-world transactional experience. The course is divided into two components: 1) lecture, and 2) lab/development assignment.

48-550 Issues of Practice

Issues of Practice is a required course taught in the fifth year. Through the presentation and discussion of aspects that characterize the structure and content of contemporary professional practice in architecture, the course exposes students to the issues that surround the translation of design into a built structure. The course presents the complex systems at work in the practice of architecture, and the role of the architect in those systems. Students are engaged to develop a critical awareness and broad understanding of individual roles and responsibilities within the professional practice of architecture. Professional practice includes the relationship between the architect and the profession, the profession and society, and the organization, management, and documentation of the process of providing professional services.

48-453 Theories in Urban Design

The intention of this class is to nurture your appreciation of cities and the wide array of factors that contribute to a successful urban environment. The course will introduce chronologically the evolution of human settlements, and will present different theoretical frameworks that try to understand the dynamic interaction between different built environments and the social groups that inhabit them. Additionally, the class will discuss the nature of the practice of urban design.

48-551 Ethical Decision Making in Architecture

Ethical Decision Making in Architecture is a required course in the fifth year. It is a course in the sequence that is identified with the professional aspects of our student's education, including among others the following courses: *Psychology of Habitation, Design Economics*, and *Issues of Practice*. It builds on an understanding of the issues of occupancy, economics and practice, which are central to decision making in architecture and provided by the preceding courses. The text for the course is a manuscript by the instructor which is being developed into a manuscript for publication.

48-568 Advanced CAD / BIM / 3D Studio MAX

This course is designed to introduce a person to the fundamentals and advanced topics of CAD, BIM, and 3D animation. Students will learn how to properly set up and manipulate projects and animations combining AutoCAD, Revit, and 3D Studio MAX software.

48-569 / 48-781 GIS/CAFM (Geographic Information Systems/Computer Aided Facilities Management) / Knowledge Management in Infrastructure Planning

Geographic Information Systems (GIS) is a system of hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modeling and display of geospatially referenced data for solving complex planning and management problems. GIS applications use both spatial information (maps) and databases to perform analytical studies.

Facilities management is the practice of coordinating the physical workplace with the people and work of the organization. FM integrates the principles of business administration, architecture, and the behavioral & engineering sciences. CAFM integrates various tools that demonstrate the use of software in facilities management to streamline operations, boost productivity and develop strategic planning goals for an organization.

Appendix H _ Graduate Course Descriptions

GRADUATE COURSES 2005 - 2007

MS ARCHITECTURE

A	17-909	Strategies for Research Design	Gross	S07
A	48-711	Paradigms of Research in Architecture	Akin	F07, F06, F05
A	48-775	Design Theory and Methods	Gross	S06

ARCH ENG CONSTRUCTION MANAGEMENT

AECM	48-758 / 48-551	Value Based Design AEC Management	Akin	S06
AECM	48-765	AEC Synthesis	Akin / Finger	F07, S07, F06, S06, F05
AECM	48-781	Knowledge Management in Arch and Planning	Kurland	S07, S06

BUILDING PERFORMANCE

BP	48-721	Building Controls and Diagnostics	Lam	S07, S06
BP	48-722	Building Performance Modeling	Lam	F07, F06, F05
BP	48-723	Performance of Advanced Building Systems	Hartkopf	S07, S06
BP	48-726 / 48-410	Environment II: Acoustics and Light	Lam	F06, F05
BP	48-729	Productivity, Health, Quality of Buildings	Loftness	S06
BP	48-738	Ecological Footprints (first half mini)	Hartkopf	F06

COMPUTATIONAL DESIGN

CD	48-746	Graphic Users Interface Design	Krishnamurti	F06
CD	48-760	Advanced Computer Modeling	Krishnamurti	F05
CD	48-770	Comp I: Intro to Programming & Databases	Krishnamurti	F06, F05
CD	48-771	Computation II	Krishnamurti	F05
CD	48-789	MSCD Project Course IV: Shape and Computation	Krishnamurti	S07
CD	48-756	Object Oriented CAD	Gross	F05
CD	48-762	CAD Project II	Gross	S06
CD	48-786	MSCD Project Course I: Architectural Robotics	Gross	F06, F05
CD	48-787	MSCD Project Course II: Arch Robotics	Gross	S07
CD	48-788	MSCD Project Course III: Software Requirement Engineering	Akin	F07, F06
CD	48-767	Software Requirement Modeling	Akin	F05
CD	48-768	Software Requirement Application	Akin	F05

SUSTAINABLE DESIGN

SD	48-728	Innovative Product Development: Modular Green Schools	Aziz/Loftness	S07, F06
SD	48-731 / 48-732	Sustainable Design Synthesis	S.Lee	S07
SD	48-752	Zero Energy Housing	S.Lee	F06, F05

URBAN DESIGN

UD	48-705 / 48-500	Architecture Design Studio: The Urban Laboratory	Kline / Hutzell	F07
UD	48-706	Urban Design Studio	El Samahy	S07
UD	48-707	Urban Design Project Preparation (mini 4)	Kline	S07
UD	48-725 / 48-452	Building Economics	Minnerly, M.	F07

Graduate Courses

MASTER OF SCIENCE IN ARCHITECTURE

17-909	**Strategies for Research Design**
48-711	**Paradigms of Research in Architecture**
48-775	**Design Theory and Methods**

17-909 Strategies for Research Design

Graduate course intended to prepare PhD students to understand how to conduct design research.

48-711 Paradigms of Research in Architecture

This course is an introduction to models and methods of academic research, particularly as they relate to building design. It is also intended to be a forum for intellectual curiosity.

48-775 Design Theory and Methods

Seminar course reviewing topics in the theory and methods of design in architecture, planning, and engineering.

ARCHITECTURE ENGINEERING CONSTRUCTION MANAGEMENT

48-758 / 48-551	**Value Based Design AEC Management**
48-765	**AEC Synthesis**
48-781	**Knowledge Management in Arch and Planning**

48-758 / 48-551 Value Based Design AEC Management

Design adds value to products. AEC products are no exception. This course uses decision theory to analyze, explain, predict and control design-added value, in the AEC industry. Utility created through unconventional design features that violate the ordinary forms of economic equity for buildings is called design-added value (DAV). More particularly, this course applies techniques of requirement modeling, planning, risk-benefit analysis, intuitive design methods, (de)value-engineering and institutional ethics to building delivery problems and building cases, in the process of exploring DAV.

48-765 AEC Synthesis

This is the project course for the Architecture/Engineering/Construction (AEC) Management Master of Science program in the School of Architecture and the Department of Civil and Environmental Engineering at Carnegie Mellon University. This course deals with synthesis in solving AEC problems using the tools, theories and methods studied in the prerequisite courses. In this respect, it is a synthesis of the degree program, itself.

48-781 Knowledge Management in Arch and Planning

Geographic Information Systems (GIS) is a system of hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modeling and display of geospatially referenced data for solving complex planning and management problems. GIS applications use both spatial information (maps) and databases to perform analytical studies.

Facilities management is the practice of coordinating the physical workplace with the people and work of the organization. FM integrates the principles of business administration, architecture, and the behavioral & engineering sciences. CAFM integrates various tools that demonstrate the use of software in facilities management to streamline operations, boost productivity and develop strategic planning goals for an organization.

MASTER OF SCIENCE IN BUILDING PERFORMANCE

48-721	**Building Controls and Diagnostics**
48-722	**Building Performance Modeling**
48-723	**Performance of Advanced Building Systems**
48-726 / 48-410	**Environment II: Acoustics and Light**
48-729	**Productivity, Health, Quality of Buildings**
48-738	**Ecological Footprints (first half mini)**

48-721 Building Controls and Diagnostics

This course introduces the concepts and methods of building controls and diagnostics. It focuses on the empirical evaluation of the built environment (building components and systems, interactions between building, occupants and environmental conditions) in view of multiple performance criteria (thermal, visual and acoustic performance). Field measurement and assessment techniques will be introduced.

48-722 Building Performance Modeling

This course introduces fundamentals and computational methods in building performance modeling, with special focus on thermal and energy performance modeling. Computational tools introduced in this course include Green Building Studio, eQUEST, Design Builder and EnergyPlus.

48-723 Performance of Advanced Building Systems

Advanced Building Systems Integration is a graduate level course that focuses on commercial building performance achieved through systems integration. In lectures, class discussion, and student projects, we explore building performance, the design and technical strategies that support sustainable high performance; the design, construction and operation processes that are likely to produce sustainable high(er) performance buildings; and the current state of theory versus practice.

48-726 / 48-410 Environment II: Acoustics and Light

This course introduces theoretical foundations and computational methods in architectural acoustics and lighting. Topics in acoustics include: a) review of physiological and psychological acoustics; b) computation of outdoor and indoor airborne sound propagation; c) interaction of air-borne and structure-borne sound with building structures; d) sound transmission between rooms; e) design methods in room and building acoustics; f) fundamentals of vibration control; g) application of computer-aided simulation tools in building and room acoustics. Topics in lighting include: a) review of visual comfort criteria and lighting psychology, b) analytical and numeric methods for the computation of lighting conditions in interior spaces, c) application of computer-aided lighting simulation tools in architecture, d) lighting engineering and design methods.

48-729 Productivity, Health, Quality of Buildings

Given the growing demand for green buildings by federal and private sector clients, professional practices are “tooling up” all over the world to deliver high performance, environmentally responsive, “green” buildings and communities. However, investments in green, high performance building solutions and technologies are still limited by first cost decision- making, and life cycle tools are still largely inaccessible to professionals. A new building investment decision support tool – BIDS™ - has been developed by the NSF/IUCRC Center for Building Performance at Carnegie Mellon University, with the support of the Advanced Building Systems Integration Consortium. This cost-benefit decision support tool presents the substantial cost-benefits of a range of advanced and innovative building systems designed to deliver – privacy and interaction, air quality, ergonomics, lighting control, thermal control, network flexibility, and access to the natural environment - from field case studies, laboratory studies, simulation studies, and other research efforts.

48-738 Ecological Footprints (first half mini)

An ecological footprint is the amount of land and water area a person or a human population would need to provide the resources required to sustainable support itself and to absorb its wastes, given prevailing technology. This concept was first developed in 1996 by Canadian ecologist William Rees and Mathis Wackernagel at the University of British Columbia, Canada. According to the ecological footprints calculation by Global Footprint Network supported, the total ecological footprints have already increased beyond the total biocapacity of our planet from 1980s. For some nations in middle-east and North America, the ecological footprints are far beyond their biocapacity, which means that these nations are now importing more and more resources from other regions around this world. Facing the fast developing

paces of China and India, which are now importing more and more resource from all around the world, the global ecological footprints will continue increasing but the biocapactiy of this planet will decrease.

MASTER OF SCIENCE IN COMPUTATIONAL DESIGN
48-746 Graphic Users Interface Design
48-760 Advanced Computer Modeling
48-770 Comp I: Intro to Programming & Databases
48-771 Computation II
48-789 MSCD Project Course IV: Shape and Computation
48-756 Object Oriented CAD
48-762 CAD Project II
48-786 MSCD Project Course I: Architectural Robotics
48-787 MSCD Project Course II: Arch Robotics
48-788 MSCD Project Course III: Software Requirement Engineering
48-767 Software Requirement Modeling
48-768 Software Requirement Application

48-746 Graphic Users Interface Design
This course explores the issues of developing a Graphics User Interface (GUI) for non-professionals — a well-designed GUI can free the user from learning complex command languages and allow more efficient interaction with a computer system. With more mature programming languages, it is becoming more common and easier to build a GUI by using the increasingly familiar, common, object-oriented, event-driven programming model. Apart from the language aspect, the success of a GUI depends on visual cues and effects; these involve graphical elements such as typography, symbols, color as well as other static and dynamic graphics.

48-760 Advanced Computer Modeling
The course objective is to provide a, conceptually, more significant approach to using computer in design especially, architecture design and idea. Instead of the computer as a representational tool, this course seeks to expand on the use of the computer as a means for design and idea representation. The student project is centered on the Global House, an international architectural contest, requiring students to renovate the concept of Housing through their own experience about the social physical, technological and aesthetic changes that they have experienced and that the new global society is experiencing.

48-770 Comp I: Intro to Programming & Databases
This course is intended to be a gentle but dense introduction to computer programming and program design for students without prior programming experience. The lectures and lab sessions are coupled to form an intensive 6 hours of instructions and practice per week. The course material is delivered in three ways: An art of computer programming part emphasizing problem solving and general computing issues; a lab reflecting programming practice; and a science of programming part reviewing the material presented and offering reasoned responses to questions, both real and hypothetical and deals with issues of programming style.

48-789 MSCD Project Course IV: Shape and Computation
This course culminates, in spirit, the sequence of CD project courses that students have taken with the specific requirement of a completed documented graduate degree project.

48-756 Object Oriented CAD
Each participant in this class will design, develop, debug, and document a working computational design application program. Emphasis in the course will be on ideas expressed in code and on an interactive software designing process, rather than on correctness and error-free program behavior. Essential to this approach is using programming as a vehicle for having and exploring interesting and powerful ideas.

48-786 MSCD Project Course I: Architectural Robotics
Buildings with moving parts have been around since the door was invented, but recent advances in materials, microcontrollers, sensors, and other information technologies have ushered in a new generation of responsive

buildings. Reconfigurable walls, color controlled illumination, windows made opaque by flipping a switch; these are the elements of the new building yard.

48-787 MSCD Project Course II: Arch Robotics

Hands-on course introducing elementary robotics as applied to buildings.

48-767 Software Requirement Modeling

This course introduces students to techniques and methods of requirement modeling and specification for software development. It focuses specifically on software development for computer aided architectural and engineering design and examines several requirement elicitation and management approaches. At the end of the class the student should know or be able to:

o basic terminology for software requirement elicitation and specification
o differentiate between types of requirements information and sorting them into logical categories
o suitable data gathering techniques for eliciting software requirements
o technical diagramming methods to represent requirements, with Unified Modeling Language (UML) and Rational© tools
o software development life-cycle approach to requirement management, especially verification and traceability
o apply requirement develop strategies to carry requirement information to a high level of software design.

MASTER OF SCIENCE IN SUSTAINABLE DESIGN

48-728 Innovative Product Development: Modular Green Schools
48-731 / 48-732 Sustainable Design Synthesis
48-752 Zero Energy Housing

48-728 Innovative Product Development: Modular Green Schools

The distinctions between architecture, industrial design, and manufacturing are beginning to fade, leading to opportunities to create innovative integrated systems that meet emerging sustainability, technological and organizational challenges. Prefabrication and modular buildings are emerging worldwide to address the growing challenges of worker migration, natural disasters, and shortages of construction labor. At the same time, the design of products and product assemblies that can be pre-engineered and rapidly assembled and disassembled offers opportunities for superior aesthetic detailing and performance. Moreover, the design of the integrated systems can contribute to enhanced sustainability through material, energy and water conservation, enhanced environmental quality and even energy generation.

48-731 / 48-732 Sustainable Design Synthesis

This is the preparatory course for the synthesis project course in the Master of Science in Sustainable Design (MSSD) program in the School of Architecture at Carnegie Mellon University. Students will build upon the Research Models and Methods class to develop an individual project proposal in an area of their interest related to sustainable design. The students will attend bi-weekly meetings with the instructor and will submit a formal research project proposal at the conclusion of the semester including a detailed description of the project and an annotated bibliography.

48-752 Zero Energy Housing

This course will take a fresh look at contemporary housing design and delivery process in response to global, regional and local frameworks. From climate change, to power deregulation, to suburban sprawl to the rapid proliferation of information technology, change is occurring at a more rapid pace than at any other time in our history. Yet, the housing industry is a fragmented, multi-headed beast in which change is slow to occur, if at all. Our houses of today are not meeting the needs of the users, nor are they performing as good “global” citizens. Japan and the European Community, faced with higher energy costs and high density housing conditions, have been leading the way globally with innovative ideas and financial incentives to produce more sustainable housing. This course will examine issues of design, technology and construction process related to high performance housing including renewable energy systems. Students will learn to use both manual and computer-assisted methods to quantify the performance of the houses that they design.

MASTER OF URBAN DESIGN

48-705 / 48-500 Architecture Design Studio: The Urban Laboratory
48-706 Urban Design Studio
48-707 Urban Design Project Preparation (mini 4)
48-725 / 48-452 Building Economics

48-705 / 48-500 Architecture Design Studio: The Urban Laboratory

The Urban Laboratory is a studio based outreach program in which teams of students work with community members to craft innovative design visions for a neighborhood in the Pittsburgh Region. Our approach to urban design and planning engages the city as an integrated design problem, which is best solved through a participatory design process. Emphasizing both community empowerment and cutting edge urbanism, we work towards a more sustainable, just and beautiful city.

48-706 Urban Design Studio

The studio continued the work begun in the previous semester, investigating uses for vacant public and private property in the shrinking American city, using the Hill District's Herron Avenue and the LTV site in Hazelwood as case studies.

48-707 Urban Design Project Preparation (mini 4)

This course offers Master of Urban Design candidates a structured setting for the proposal of individual urban design thesis research. Through a series of workshops, students develop proposals in one of three tracks for MUD thesis projects: research informed design, written analytical research, and community action research. The course culminates with the completion and approval of a thesis proposal.

48-725 / 48-452 Building Economics

The course will develop the student's understanding of the economic forces that impact building design decisions in the real estate development process. The course will introduce students to the drivers of the development process, their relationship to the design process from initial site selection through operations, with the goal of exploring the impact design decisions have on financial performance. This investigation will integrate industry practitioners to simulate a real-world transactional experience. The course is divided into two components: 1) lecture, and 2) lab/development assignment.