

# Architecture Studio: Foundation II / 1<sup>st</sup> Year Spring

Spring 2015, CMU, Arch #48-105, M/W/F 1:30-4:20  
Studio Website: [www.andrew.cmu.edu/course/48-105](http://www.andrew.cmu.edu/course/48-105)

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Off. Hr: by appt. in MM302

(3/2/15)

## Project 2: LIBRARY ANALYSIS

**MINDSET:** The single most important source, and tool, for learning about architecture, is architecture. Building on your studies of iconic houses in 48-121 “Analog Media,” as well as our field trips, we will now analyze LIBRARIES with the goal of applying lessons in Proj.3, an addition that transforms Hunt Library. Through research and personal investigation of libraries we seek to expose underlying orders, systems, compositions, constructions, and constraints, and how these relate to the experiences we have. By communicating these through abstract, analytical, and interpretative diagrams, we get at the architectural intent, concept, and principles used by the architect, and understand how architecture can express ideas, manipulate function, and create experiences at many levels. You should work to understand the library, and especially the “academic library” as a “building type” with certain common denominators and underlying assumptions (that can at times be challenged). We will also study Hunt Library as a “site” for Proj.3, with specific dimensions, solar orientations, histories, contexts, user groups, and associations. *This is an architecture project.*

### Assignment #1: Poster (Due. Wed. Mar. 4, 1:30pm):

1) READ excerpts from Pevsner’s The History of Building Types (1976), and the intro and conclusion of Webb, Building Libraries for the 21<sup>st</sup> Century (2004) to begin to understand the “building type,” and questions about the future of libraries.

2) LIBRARIES ASSIGNED: Each student has been pre-assigned an important modern library on which to do focused research. *If you are unable to find enough sources on your library, contact the coordinator immediately to switch libraries.*

3) RESEARCH: Gather as much documentary evidence about your building as possible, especially any other analysis work that has been done on your library. Most valuable are detailed plans & building sections, design process sketches, structural diagrams and drawings, and other drawings that reveal space & structure. If necessary, get help from Martin Aurand. All students must:

- Check the 48-105 Library research guide: <http://guides.library.cmu.edu/48-105>
- Follow instructions at [http://guides.library.cmu.edu/buildings\\_architects](http://guides.library.cmu.edu/buildings_architects)
- Access Avery Index for recent professional architecture journal articles
- Use Interlibrary Loan to order all articles not found at CMU (incl. non-English)
- Look for books / monographs on your architect, city, or libraries
- Do web searches for images, plans, text, etc. Search by name of library, architect, city, etc. Don’t forget to look for non-English sources: try the word *bibliothèque* (French); *Bibliothek* (German); *biblioteca* (Spanish/Italian), etc. (“Librarie” or “Libreria” often means book shop). Don’t forget the firm’s website for general philosophy or approach, as well as a bibliography of news and sources.
- Try emailing or calling the firm, or the library, for extra documents!!

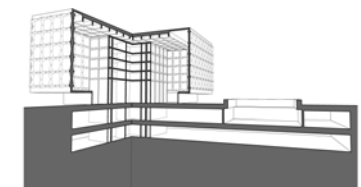
4) POSTER: Compose a landscape-oriented 11x17 color poster that documents your library through photos, drawings, plans, sections, sketches and diagrams by others. Carefully compose ALL the necessary views and drawings on one page (provide LOTS of information). Also provide basic ID info (your name, library name, place, architect, dates, etc.), and a bibliography of 2-4 best sources of info where you gathered material (website, journals, or books).

5) VISIT: Visit as many libraries as you can, this week, and over spring break. Visit (at least) two local Pittsburgh libraries (see attached list, divide them up by studio, a close one, and a far one), as well as all three CMU libraries. Take graphic/visual notes on the specifics of each library, how they work, how they are set up, how they use light and technology, how they accommodate people and store data. Think about what they all have in common.

*Bring hardcopy & upload pdf file of both pages to the archpcserver, in the folder:*

*\\archpcserver\Studios\S15\_48-105\07 Proj.2 Library Poster*

*Please be sure to use the file name: 48105\_S15\_lastname\_Proj.2\_Library\_Poster*



# LIBRARY ANALYSIS -- CMU 48-105, S'15

3/1/2015

	BUILDING NAME	PLACE	ARCHITECT	DATE	TYPE	STUDENT LAST	NOTES
1	Folkwang Univ. of Arts Library	Essen, Germany	Max Dudler	2012	Univ	ANAND	A
2	History Faculty Library, Cambridge	Cambridge, England	James Stirling	1964	Univ	AULD	A
3	Iwaki Picture Book Library/Museum	Fukushima, Japan	Tadao Ando	2005	Other	CHAIYPATRANUN	A
4	Palo Verde Library & Maryville Comm.Ctr	Phoenix, AZ, USA	Wendell Burnette	2006	Branch	CHO	A
5	Rapson Hall Addition, Univ Minnesota	Minneapolis, MN	Holl & VJAA	2002	Univ	CIZMECI	A
6	Musashino Art Univ. Museum & Library	Tokyo, Japan	Sou Fujimoto	2010	Univ	DONNELLY	A
7	Northgate Library & Community Center	Seattle, WA, USA	Miller Hull	2006	Branch	FOGEL	A
8	Biblioteca Pallafols/Miralles	Barcelona, Spain	Enric Miralles	1998-2007	Branch	GUTURU	A
9	Vasconcelos Library	Mexico City	Alberto Kalach	2006	Branch	JO	A
10	Eberswalde Tech. School Library	Eberswalde, Germany	Herzog & DeMeuron	1998	Univ	KIM	A
11	Mt. Angel Library	Oregon, USA	Alvar Aalto	1970	Univ	LAGVANKAR	A
12	Starr East Asian Library, Berkeley	Berkeley, CA, USA	Tsien/Williams	2008	Univ	LEE	A
13	Vennesla Library & Culture House	Vennesla, Norway	Helen & Hard	2011	Branch	LEE-PARK	A
14	Univ. Versailles Science Library	Versailles, France	Badia & Berger	2012	Univ	LI, K	A
15	Phillips Exeter School Library	Exeter, NH, USA	Louis Kahn	1966-72	Univ	LIANG	A
16	Seattle Public Main Library	Seattle, WA, USA	Koolhaas/OMA	1999-2004	Main	LIU	A
17	Hunt Library, NCSU	Raleigh, NC	Snohetta	2013	Univ	MAHLER	A
18	Seikei University Information Library	Tokyo, Japan	Shigeru Ban	2007	Univ	MARTINEZ	A
19	Lewis Science Library	Princeton, NJ	Gehry & Brard	2004	Univ	MELILLO	A
20	Julian Street Library, Princeton	Princeton, NJ	Joel Sanders	2012	Univ	RADICAN	A
21	Idea Store	Whitechapel, London, UK	David Adjaye	2005	Branch	SHIM	A
22	Biblioteca San Antoni-Joan Oliver	Barcelona	RCR	2008	Branch	THOTA	A
23	Munster City Library	Munster, Germany	Bolles-Wilson	1993	Main	YAN	A
24	University Library Deusto	Bilbao, Spain	Rafael Moneo	2008	Univ	YANG	A
25	Orkanen Library & School of Education	Malmö, Sweden	Diener & Diener	2005	Univ	BAKER	B
26	Utrecht University Library	Utrecht, Netherlands	Wiel Arets	1997-2004	Univ	BELL	B
27	Peckham Library	London, Peckham Sq, UK	Will Alsop	1999	Branch	BIRENBAUM	B
28	Biblioteca Sandro Penna	Perugia, Italy	Italo Rota	2004	Branch	CHEN	B
29	Open Air Library	Magdeburg, Germany	KARO	2009	Branch	DARREFF	B
30	Aveiro University Library	Aveiro, Portugal	Alvaro Siza	1994-2000	Univ	FORD	B
31	City Library in Seinäjoki Addition	Seinäjoki, Finland	JKMM / Aalto	2012	Branch	FRANCE	B
32	Tama Art University Library	Tokyo, Japan	Toyo Ito	2007	Univ	FRIEDMAN	B
33	Library Delft Univ. of Technology	Delft, Netherlands	Mecanoo	1997	Univ	GAO	B
34	Grimm Center, Humboldt Univ. Library	Berlin, Germany	Max Dudler	2009	Univ	HAIDER	B
35	Cottbus University Library - IKMZ	Cottbus, Germany	Herzog & DeMeuron	1998-2004	Univ	ISLAM-HASHMI	B
36	Library & Learning Ctr, Univ. of Economics	Vienna, Austria	Zaha Hadid	2013	Univ	JU	B
37	Braunschweig University Arts Library	Braunschweig, Germany	Ricardo Legoretta	2002	Univ	KANODIA	B
38	Book Mountain	Spijkernisse, Netherlands	MVRDV	2009-12	Branch	KHALIFA	B
39	Stuttgart City Library	Stuttgart, Germany	Yi Architects	2011	Main	KOR	B
40	Mansueto Library, Univ. Chicago	Chicago, IL, USA	Murphy/Jahn	2011	Univ	LEVY	B
41	Black Diamond National Library	Copenhagen, Denmark	Schmidt, Hammer, Lassen	1999	National	LI, J	B
42	FU Philology Library	Berlin, Germany	Norman Foster	1998-2005	Univ	LIM	B
43	Sendai Mediatheque	Tokyo, Japan	Toyo Ito	1995-2001	Other	MARTINS	B
44	Phoenix Public Library Main	Phoenix, AZ, USA	Will Bruder	1989	Main	SOHN	B
45	Beinicke Rare Book Library	New Haven, CT, USA	S.O.M.	1963	Univ	SRIDHAR	B
46	University of Aberdeen Library	Aberdeen, Scotland	Schmidt, Hammer, Lassen	2012	Univ	WANG, D	B
47	Raheen Library, Australian Catholic Univ	Melbourne, Australia	Woods Bagot	2013	Univ	WANG, V	B
48	Viipuri Library	Viipuri/Vyborg, Russia	Alvar Aalto	1927-35	Branch	ZHENG	B
49	RWI Law Library	Zurich, Switzerland	Santiago Calatrava	2004	Univ	ZHU	B

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## Project 2: LIBRARY ANALYSIS

### Assignment #2: Diagram Your Library (Due Thu. Mar. 5, 5:00pm)

6) WRITE: 10 points describing how your library relates to the readings, especially how/where it is “typical”, or challenges norms, or moves into the future, and what aspects could be a model or inspiration for changing Hunt library.

7) DIAGRAM: Create a series of inventive, abstract diagrams to reveal the library’s most important ideas, experiences, programming, structure, aesthetics, etc. Be sure your diagrammatic representation reinforces the ideas. Work to invent clear, abstract, analytical diagrams explaining your findings.

### Assignment #3: 50 Diagrams (Due Mon. Mar. 23, 1:30pm)

8) READ: Tschumi, “Concept, Context, Content,” in Event Cities 3 (2005); and at least one of the following sources on architectural analysis & composition (excerpts on Blackboard; Clark is online through CAMEO; Leupen is online through Google books; a copy of Hanlon and Ching are on the book cart:

**Clark**, Precedents in Arch.: Analytic Diagrams, Formative Ideas, & Partis 3<sup>rd</sup> ed. (2005); **Hanlon**, Compositions in Arch. (2009); **Ching**, Architecture: Forms, Space, and Order (2007); **Leupen**, ed. Design & Analysis (1997).

Work to understand how each of these authors discusses the most significant aspects of architectural design in a slightly different way, leading to potentially different kinds of understanding and analysis.

9) 50 DIAGRAMS: Using ideas from the texts above, as well as the categories below, begin to analyze your library, and translate your understanding and ideas into diagrams. Draw 40-50 analysis drawings or diagrams of various aspects of your library. Remember that diagrams can be both analytical and generative. You should interpret, read, or *analyze* the building on your own terms, but also speculate about diagrams that may have *generated* the building. Focus on a broad range of design issues, at different scales, from the overall plan to construction details. Use a variety of different analytical-drawing techniques. Feel free to work 2D or 3D, analog or digital (you can use photos of models or screen shots of digital drawings). Work to create several “series” or iterations of one drawing type or theme; but also work to create many different kinds of drawings. Be sure each diagram is distinct and deliberate: not a doodle or mere gesture.

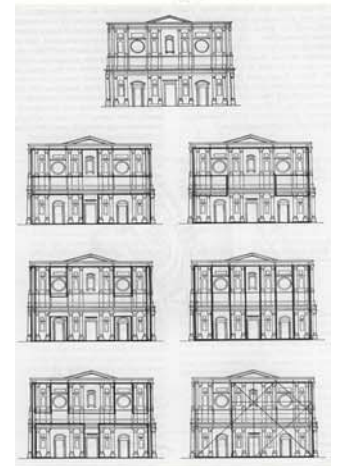
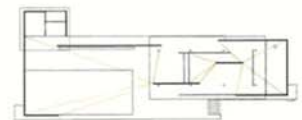
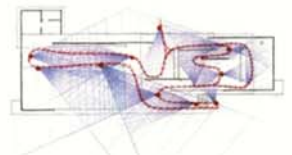
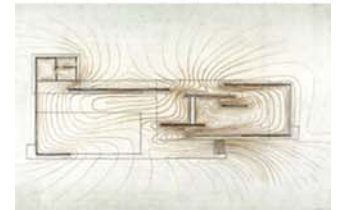
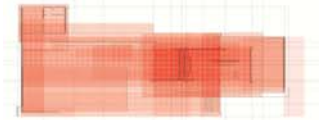
Suggested themes for your diagrams (see readings for others):

- CONTEXT / SITE: Analyze how your library “fits” within its context, or stands out, in section and plan. Find your building using Google Earth, chart views, landscape features, streets, nearby buildings, etc. How does the building touch the ground or sit on a hill? Does it look like it’s neighbors? How does it work with the flow of the landscape? Why?

- SPATIAL DEFINITION: Using techniques of understanding space and spatial definition from 48-100 and 48-126, use line and contour to explore and diagram the real and implied spaces inside and around your library. Think especially about the geometry and framework that orders and controls the spaces and spatial experiences.

- INSIDE / OUTSIDE: Analyze the relation of inside and outside in your library. Imagine the transition from inside to outside as a series of layers, some spatial, some planar, some material, and some immaterial, that together define a set of experiences. Chart the experience of your building: start far away, get ever closer, more around, enter, and then back out of the building.

- LIGHT / OPENINGS: Analyze the library’s relationship to the sun/shade. Use Ecotect or your intuition to abstract how light comes into various parts of your building. How does the architect work with openings in the facades or roof to let light in? What are the different “moods” or “atmospheres” of light created? How do they change over the day & seasons? How do they relate to program and circulation? Can you draw them?



- STRUCTURE: Analyze the structural system of your library, what holds the building up. In plan & section, attempt to isolate and accentuate the structural components of your building (load bearing walls and columns), as opposed to enclosure systems. What rhythms does the structure create? How does structure define space? How does the structure organize the program? Distinguish between stacks of load-bearing members, sticks used to frame the structure, or planes to enclose space.

- CONSTRUCTION / DETAILS: Using a *wall-section* or other detail drawings, or construction photos, analyze or describe how the architect created certain effects through construction. Analyze and draw diagrams to explain why the architect used different materials for different parts of the building.

- GEOMETRY/FORMAL PATTERNS: Building on ideas of order, systems, patterns, and geometry from Proj.1, find and record systems and patterns at various scales. Look for the underlying order of the overall plan, the “regulating lines” of the facades, the rhythm of the structural system, the primary and secondary circulation systems, technoic systems of sticks, planes and blocks, and the patterns created by materials such as brick and cladding, etc. Find as many formal patterns and groupings as you can. Highlight issues of symmetry/balance, additive/subtractive, verticals/horizontals, light/dark, parts/whole, curves/orthogonals, repetitive/unique, etc. Find rhythms, hidden shapes, proportions, axes, spaces, angles, shapes, scale, or any other formal patterns you can identify. Show what is missing, what’s obvious, and what’s hard to detect.

- PROGRAM / USE / FUNCTION: What are the distinct programmatic spaces in your library? Draw the program as an assembled set of “program blocks” (consider making a model, or a digital model with quick cubes of space) Is the programmatic massing the same as the overall building massing? Distinguish between the primary or “served” components, and the secondary or “poche” components.

- SEQUENCE / PROMENADE: Analyze how people approach, circulate, or use the library. Seek to understand *WHAT* the architect intended with the overall design, the choreographed movement, and each detail, and *WHY* the architect “composed” it that way, and create analytical diagrams to show it. Consider creating a “storyboard” with abstracted vignettes of the flow through the building. Draw the various layers, zones, or thresholds encountered.

- SEVEN SENSES: Analyze a variety of sensual and immaterial effects of your library; things that are audible, smellable, touchable, feelable, etc. Look at textures, mood, temperature, materials, joinery techniques, hierarchy, the role of ramps, stairs, tall ceilings, etc. Move beyond the visible, to the emotional and bodily reactions.

- EXPERIENCE: Capture or analyze the human experience of your library, what we feel beyond what we can see, how people behave, how the building constrains or moves people, the affect or emotional expression of the building.

\*\* Create many diagrams quickly in sketch format. For the final, re-draw 40-50 diagrams so they are neat and well-composed onto pages into a GRID of similar analysis drawings-diagrams. Plot a hardcopy, and submit pdf to archpcserver.

#### Assignment #4: Analysis / Analytique (Due Mon. Mar. 23, 1:30pm)

**10) ANALYTICAL DRAWING 24"x36"**: Each student should create a 24"x36" *analytical drawing* of your library that focuses on a particular sequence of experiences into and through the most important parts of your building. Combine multiple drawing types, at different scales, and over-lapping the parts. Although you are free to choose any drawing type, or a hybrid of drawing types, we recommend you explore sectional perspectives, exploded axos, or other drawings that carefully show both outside and inside experiences. Focus on the physical architectural elements, but see if you can render “atmosphere” as well. Attempt to include both the context and details, revealing how the building fits into the landscape, and how pieces of construction inter-connect and assemble into patterns and order. Include geometric and other revealing analytical information through subsidiary lines. Consider carefully the view angle and how the drawings sit on the page to show all the different info you want to communicate. Draw and amend several drafts before beginning the final. Make sure it is an ANALYSIS drawing!

\*\* Bring sketches or first drafts to class on Wed. 3/18. Submit draft to the archpcserver by Fri. 3/20 at 5pm. Bring a final copy for Mon. 3/23.

