Thesis

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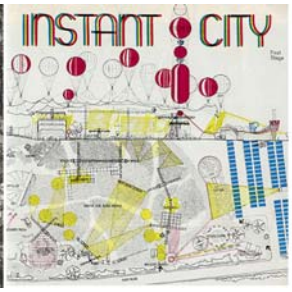

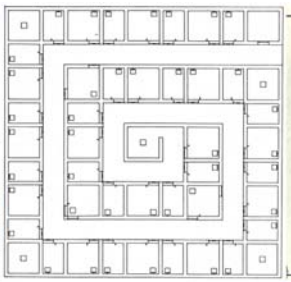
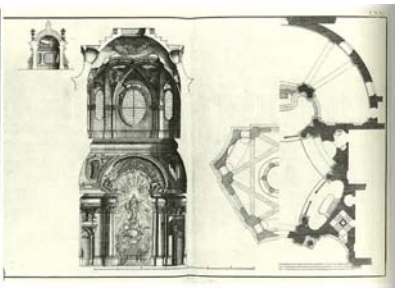

CLASS OF 2014 THESIS SYLLABUS

(Version.g; subject to revision)

One of the core principles of the evolving 4th & 5th year CMU SoArch curriculum is that students should have more opportunity to shape parts of their own educational agenda in the closing semesters of their college education. They now have more choice in the courses they take, the order in which they take them, and the ability to do independent and self-defined course work. Students are encouraged and empowered to create their own future: to go back to their core passions and interests; or to explore and make broad inter-disciplinary connections that lead to new insights; or to specialize intensely in areas that fascinate them most and might launch them towards graduate school or a career. Students who seek to do independent work, or define their own project in the final year of their B.Arch degree, will have several different paths to follow: Independent Study, Research Studio, Independent Project, and Thesis.

THESIS: For those 5th year students seeking to define a new or continued project that goes beyond the options listed above in scope or schedule, "Thesis" may be an option. In the new curriculum, "Thesis" must be a full-year, 36-unit, independently defined research and design project, with approval for the 2nd semester contingent upon successful completion of the 1st. All Thesis projects must be guided by a team of at least three (3) advisors for the entire year, and done according to the guidelines outlined below. A "Thesis Prep" mini course will be offered in the spring of 4th year to introduce Thesis, to allow students sufficient time to develop a focused topic, and to find an advisor team. The School will no longer offer centralized "Thesis Studio." In the spirit of independent investigation that lies at the core of a research university, oversight for the Thesis will be greatly decentralized and student responsibility will be increased, though CMU's standards of excellence must still be assured.

DEFINING THESIS: Thesis means many things to many people (see Appendix for a variety of succinct definitions and traditions of Thesis). At its core, Thesis is a form of inquiry generated by the student, but determined in collaboration with an advising team. SoArch faculty seek to encourage an expansive range of rigorous and provocative inquiry as a culminating experience for the B.Arch education. It is neither possible nor desirable to formulate conclusively the acceptable topics, or methods, or types and levels of outcomes a B.Arch Thesis must engage. The faculty seek work that

- speculates, invents, or improves on existing architecture(s), objects, ideas, practices, or systems through research and design
- moves beyond the typical architecture studio design process and projects, and is more than just an independently defined studio project
- is rigorous, methodical, critical, inventive, inspirational, projective, and seeks to do more than just explore, document, describe, or emote
- institutes measurable performance-based criteria for evaluating the design process and results
- presents an "argument" or "proposition" that requires extensive research and evidence to validate, and is "defended" (rather than just presented) at the end of Thesis
- engages with open-ended and generalizable ideas, as much as with specific situations
- projects or imagines a better future and an improved world, one that others can build on
- might challenge the boundaries of the discipline and the profession, often through inter-disciplinary means, and moves beyond mere practice or solution-based projects
- might lead to new knowledge, ideas, understanding, or paradigms

LEARNING OBJECTIVES: "Senior Thesis" is a threshold project in many colleges and many disciplines. It is an opportunity to develop skills, thoughts, and habits essential for future success, no matter the profession. These include mental discipline; independence of mind and judgment; the capacity to focus and pursue a subject in depth; the ability to design and execute a complex project; the skills of analysis, synthesis, and clear writing; and the self-confidence that grows from mastering a difficult challenge. At its best, the Thesis enables students to make their own contribution to knowledge in their respective disciplines.[1] In the process of doing a CMU SoArch Thesis, a student should:

- Demonstrate creativity through fluid reasoning and the capacity to think logically to solve problems in novel situations. The Thesis should feature creative synthesis, organizational logic, and an effective relationship of concept and form.
- Develop design prospects through modeling, scripting, simulation, fabrication or other media relative to the inquiry; master and use technical skills and expertise appropriately and effectively.
- Define appropriate and rigorous methods of research and design processes, as well as understand and choreograph the relationship between the two so that Thesis results a sophisticated design project that can be "defended" and validated by others.
- Employ critical and contextual research, including pertinent social, theoretical, historical, and cultural material from other disciplines, to situate the Thesis proposition in relevant contemporary or historical discourses, both within and outside the discipline.
- Communicate effectively through visual, verbal, and written form, in 2D and 3D, in analogue and digital means, to achieve high quality discussions, essays, models, presentations and documentation of the process
- Demonstrate motivation by employing professional, high level skills to work individually and collaboratively, in matters of personal initiative, organization and planning, meeting deadlines, attendance, communication, teamwork, managing of advisory committee, and public presentations.

THESIS TOPICS: Students should begin thinking about Thesis topics as soon as possible. They are encouraged to explore topics beyond what they have done in School up to that point. But to ensure high-level and in-depth results, a SoArch Thesis should be framed as connected to, or evolving out of, a student's existing interests and architectural education, including using the *design process* as the primary means of working, rather than jump into completely new or unexplored areas or ways of working.

In order to create synergistic relationships between student Thesis work and studios, students are encouraged to categorize their Thesis in terms that match the strengths of the SoArch faculty, and the SoArch graduate programs, including: Computational Design (CD); Sustainable Design (SD); Urban Design (UD), Critical Practice (CP), Speculative Design (SP); Urban Design Build (UDBS) and Furniture Design (FD). Students are strongly encouraged to choose electives inside and outside the SoArch to expand their expertise and supplement their Thesis work, and perhaps find other advisors. In order to assure quality advising, the student is obligated to find advisors, both SoArch faculty and outside advisors, that can provide the disciplinary expertise needed to advise/support students.

The scale of inquiry for Thesis can range from the scale of a building component, to larger architectural developments, and from discrete objects to complex and embedded systems. With the increased recognition that architecture is an integral part of a larger natural ecology and world urban system, explorations at various scales, in various methods, and through various disciplines may be a necessary part of architectural research.

Although it is up to the students to define their Thesis alongside their advisors, the Coordinator strongly urges B.Arch Thesis students to resolve their research through the architectural design process, and the design of a *building*, or a similarly scaled and similarly complex artifact that can be completed with a 36-unit, year long process. Almost any question or topic related to culture, society, technology, science, human existence, art or philosophy can be addressed at the scale of a *building*, the central expertise of the architect. For centuries, and at most other schools around the world, architecture students have culminated their studies with the design of a real or imagined building that demonstrated their competence to faculty and future employers, that often pushed the boundaries of the discipline, and that often had profound implications on the profession and on related fields such as construction, housing, planning, etc.

THESIS COMPONENTS: All Thesis projects should:
1) Define a very focused subject or topic to be investigated through research and design with the intent of establishing new knowledge, a refined understanding of existing ideas, or a new paradigm.
2) Propose and continually refine a challengeable thesis or contestable proposition that, if designed and defended successfully, can lead to new ideas, understanding, or paradigms.
3) Undertake extensive, indeed comprehensive research about the existing knowledge and discourses surrounding the chosen subject, including precedent studies, methodological overviews, related theoretical readings, etc. This research should be undertaken with a spirit of curiosity, open-mindedness, and determination, realizing that research often results in diversions or dead ends that are not all directly applicable to the final results, but should be explored to ensure thorough results.
4) Through research, establish specific, measurable performance criteria either before design (research-by-design), or during the design process (reflective practice), that can be used to evaluate results.
5) Propose and follow specific methods through which to investigate, research, and experiment about the topic in order to collect evidence that can be used to argue for the thesis or proposition. These research methods should be continually refined and revised through an iterative, feedback-based process of discovery and reflection.
6) Establish and maintain specific and professional ways of documenting the research work and interim results throughout the process; communicate process and results effectively.

7) Propose and maintain a continuously updated schedule of the Thesis process to ensure proper time management, enough time for each part of the research and production process, and in order to meet specific SoArch deadlines and requirements.
8) Design, summarize, or organize the research process, findings, and conclusions into a final, deliverable argument, project, paper or performance. This can take the form of a building design, or the creation of prototypes, installations, software, drawings, or other artifacts, or the writing of an extended, illustrated paper that describes the inquiry process, the results, and the implications of the Thesis.
9) Make public (or "publish") the results in such a manner that it can be critiqued by advisors and colleagues, and also archived by the university, and/or published elsewhere. The discipline, the university, and research more generally are all based on the production of new knowledge and expertise over time, always building on what came before, and documenting the results for others to vet and use in future research. Your Thesis should be part of building up a discourse and research that others tap into.

RESEARCH vs. DESIGN: Research method and design process are crucial to Thesis. The idea that "research" can be done by architects through "design" is (relatively) new to our discipline/profession. In a world dominated by science and the scientific method, the relationship between "research" and "design" is a matter of debate for many in design studies. Some scholars feel the two are fundamentally different, even at odds with each other; others insist they are similar or symbiotically related. In defining the specific research methods and design processes for their Thesis, students should engage this important issue with great awareness and critical intent. What parts of your work constitute "research"? What parts "design"? Was your "research" thorough enough? Was your "design" rigorous enough? How did your results synthesize the two? What criteria did you use to evaluate each? Can your results be "validated"?

For many, Research is a (scientific) process that seeks to *prove, validate, model, predict, replicate,* and/or *eliminate* ideas and evidence based on a concept of a generalizable "truth."[2] It seeks to study comprehensively ALL that is known about a specific issue, and then establish and carry out the best methods to create "new knowledge," usually only a tiny, incremental step, built on previous research. Such research often requires years of discipline-specific training to do well.

In this model, Design is a different process used by architects and others that seeks to *persuade, "satisfice," demonstrate, model, predict, one-off.* New designs can create new ideas and embody "designerly ways of knowing." But when compared to the "benign," well-defined problems of science, design problems tend to be "wicked", ill-defined, and unruly. Rather than true-or-false, they tend to be good-or-bad, based on a complex set of parameters that are "satisficed," with a range of possible solutions, rather than totally optimized for a single truth.

A hybrid process proposed for architectural Thesis work is Research-by-Design, that can *prove* by "satisficing"; *validate* by persuasion; *model* by simulation; or *predict* by critique. Research-by-Design involves the following steps: 1) find and research appropriate precedents; work to be comprehensive; 2) through study of the precedents determine specific, measurable, performance-based criteria that can be used to insure success, *before* beginning design; be clear about how the criteria are context specific, or situated; 3) design using the criteria; 4) validate that criteria were met.

THESIS IN STUDIO: Rather than work in isolation, or in a "Thesis Studio," or with a single advisor, Thesis students in the fall of 5th year will be assigned to work within an upper-year, vertical option studio, and agree to work with a group of advisors and assigned studio instructors. Even if doing completely independent work, all Thesis students must work from within a studio both fall and spring in order to assure proper advising, and a supportive environment for the Thesis work. As a result these studios will have a cohort of 4th year and 5th year students who work on the assigned studio project, AND ALSO some 5th year students who are doing independent Thesis work, all in the same space. We hope that synergy develops between the Thesis students, the individual studio instructor, and the rest of the studio. Thesis students can be asked to help mentor and inspire the 4th year students within the studio, and also to participate in group crits of the main studio project. And in turn Thesis students can expect to have an audience of studio-mates to offer feedback and energy on their research. In this way, fourth year students can learn about, and be inspired to begin to define their own Thesis topic and methods.

The precise nature of the relationship between the regular studio project and the Thesis work is somewhat flexible, up to each student and advisors to decide. It should be described in the Project Statement and time line determined by the student before beginning the Thesis. After approval of the Project Statement, the student might chose to work totally independently of the assigned studio project. Or they might decide to work in parallel, or do parts of the main studio project, and then at some point do more independent work. A student might also begin with the intent of pursuing a Thesis, but at some point decide to do the fall studio project of their studio, but pursue the "Independent Project" by preparing a proposal. The exact relationship of studio project and independent work should be determined collaboratively by the student and their advisors.

STUDENT RESPONSIBILITY: Students should recognize the opportunities and responsibilities of doing a Thesis. With an entire year, and a fantastic range of advisors to work, options and opportunities are great. But since Thesis work must be defined and done independently, with far less structure than in a traditional studio, Thesis students will need to assume more responsibility about working effectively and productively on their own, and communicating more regularly with their advisors than in previous years to assure success. It is not the primary obligation of, nor should students expect, the advisors or the Coordinator to define an appropriate topic for the students, to find or check in on missing students, to motivate lazy or lost students, or to insist on seeing the work and giving feedback. Thesis students must be self-motivated and ambitious. They should schedule and seek out advice and critiques from the most intellectually challenging critics, advisors, peers, and outside sources on their own, and produce results independently. They must be resourceful and creative in guiding their own independent Thesis work. Failure to do so will affect the grade and may lead to termination of the Thesis process.

Each Thesis student is to maintain a desk in the studio where the majority of their work is to be completed. They are to have a drawing board and all related supplies and tracing paper for the critic's use. It is expected that they will utilize a balance of freehand, analog, and digital drawing techniques, as well as physical and digital modeling, simulation, and prototyping in their design process, as well as writing. As part of SoArch's emphasis on the concept of "making" to achieve design excellence, we expect the production of well-made models, prototypes, simulations, drawings, and other artifacts to be central to their research and design process. Students are expected to have new work at the start of each class that takes into account the discussions of the previous studio and/ or review. If a student has no new work both in model and drawing form for a studio, it should be considered an absence.

SELECTING THESIS ADVISING TEAMS: Each potential Thesis student, in conjunction with the coordinator, will be required to compose a "Thesis Advising Team" of at least three advisors: ideally their fall 5th year studio instructor, plus at least two more persons with appropriate expertise. In order to promote new ideas, inter-disciplinary thinking, or greater relevance in the community or profession, we strongly encourage students to look for at least one advisor outside the current studio instructors, with other faculty from the School of Architecture, or in the broader university, or the community, or abroad. The Thesis student will be required to submit a form with signatures from each of the proposed advisors to the Thesis Coordinator. The advisory team may change as appropriate and as approved by the rest of the committee by submitting a revised form to the Coordinator.

We urge you to consider thesis to be "collaborative" with advisors in an intellectual sense: students need to discuss and "argue" with others to be sure they are doing good, rigorous work. Working alone is dangerous, and usually does not lead to great work. Seek out advisors, feedback, and a "peer group" that is as intellectually challenging as possible: don't just be satisfied with talking to other students, or even just to SoArch studio instructors. Reach out more. See the thesis process as a kind of intellectual sparring with previous research, with authors and architects you admire, with peers and advisors, and perhaps with experts you aspire to work with some day. In the end you should be ready to "defend" your thesis, because it will have gone through such a rigorous feedback and discursive process.

RESPONSIBILITY OF THE ADVISING TEAM: A strong Thesis Advising Team should give structure and continuity to the year-long, two-studio Thesis experience. The advising team will help Thesis students create a viable Thesis proposal, engage in rigorous research, explore and experiment adequately, and document results professionally. Although each Thesis student will have a team of advisors to share this work, the fall studio instructor will be a central agent in ensuring the rigorous start and progress of each Thesis. It will be the responsibility of each studio instructor to mentor and advise their assigned Thesis students alongside their regular studio, during regular studio hours or through separate appointments.

The Thesis Advising Team will work for the entire year as a team: the fall studio instructor should stay on in the spring, and the other advisors should begin advising in the summer before 5th year. Each Thesis Advising Team will define, mentor, and evaluate the Thesis process and results as they see fit and appropriate for the particular topic and student. All three advisors should have an equal say in the final evaluation of the student work. Each advising team, in consultation with the student, should nominate one advisor whose chief obligation will be to maintain good communication with the whole team and the Thesis Coordinator. In order to respect the advisors' time, the Thesis Advising Team is only required to meet as a group twice each semester: at mid-review and final review.

THESIS COORDINATOR: The Thesis Coordinator will serve primarily as a coordinator, facilitator, and administrator of the various Thesis advising teams and the overall semester process, rather than advise many individual student projects. The Coordinator will set the standards of Thesis at CMU SoArch, will offer best practice suggestions, will determine submission guidelines, and will establish work deadlines and review dates, always in communication with all studio instructors and Thesis advisors. The coordinator will issue centralized guidelines for Thesis, maintain the Thesis website with all relevant documents and resources, resolve disputes, help submit Thesis grades to the registrar, and establish and maintain a publically accessible archive of all final Thesis work.

The coordinator will also organize and convene a series of lectures, workshops, and readings to guide, bring together, and stimulate the great variety of thesis projects. These should begin in the spring of 4th year to help launch prepatory work, and continue through fall and spring of 5th year, with lessons on defining a thesis, the relation of thesis to profession and discipline, and the proper content and formatting of the thesis deliverables.

WEBSITES: The Thesis website, www.andrew.cmu.edu/course/48-509/ contains resources to facilitate, enrich, and coordinate the CMU SOArch Thesis process, including:
1) Contact information for the Thesis Coordinator and all upper-year studio instructors
2) Summaries of all of the concurrent studios in which Thesis students are working.
3) Summary of each student's Thesis project, as well as links to student websites/blogs that document individual work or process. These should be continuously updated by the students. Each student should create a link back to the SoArch Thesis website from their own website.
4) A bibliography of readings, syllabi, weblinks, and other resources on issues such as what Thesis is, what research is in architecture, the disciplinary boundaries of architecture, some contemporary issues that could be addressed in a Thesis, or could help promote better Thesis work, syllabi and descriptions of how Thesis is conducted other schools, and resources to help write up results in a professional manner.
5) Access to a communal blog or similar network through which Thesis students can communicate with each other, their advisors, and the outside world about their Thesis work.
6) Blackboard is useful to email the group;
7) A course folder on Archpcserver can help make available group resources, etc.

FALL of 5th YEAR THESIS DELIVERABLES: All Thesis students must be enrolled in an upper-level studio, whose instructor is one of the principal advisors of their Thesis. In addition, the Thesis Coordinator will run a series of workshops in fall and spring that will ensure a baseline of common practice among the students in different studios. But it will NOT absolve the advisors of the need to coach and mentor the students in the difficult process of creating a viable proposal and a good project. In addition to any work required by your advisor related to their studio, Thesis students must:

- communicate regularly with your Thesis Advising Team
- share ideas, feedback, and progress with your fellow Thesis students
- submit a viable Thesis *Project Statement* (First by Sept. 3, Final by Sept. 23)
- attend a series of Thesis workshops in fall and spring
- conduct and document independent *research* and *speculative* work on a *focused Thesis*
- attend a combined Thesis *mid-review* (Mon. & Wed. Oct. 21 & 23)
- submit a mid-term Thesis proposal booklet (deadline Sun. Oct. 19)
- attend a Thesis *final review* (Dec. 8),
- submit a final Thesis progress booklet within specific guidelines (deadline Dec. 13)

Approval to continue with Thesis II in the spring will be determined in December, based on the final fall booklet and discussions with the Thesis Advising Teams.

SPRING of 5th YEAR THESIS DELIVERABLES: Work in the final semester should be primarily independent of the studio, and initiated by the student to fit with their project. The coordinator will run a series of workshops in the spring as part of the "Thesis II" studios, dealing primarily with the final Thesis submissions guidelines and process.

FINAL THESIS DOCUMENT: The results of the Thesis process should be organized and designed into a final public presentation and a physical "Thesis book" that can be deposited with the department and the CMU library. Instructions for preparing the booklet will be released in the spring.

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1. See Nancy Malkiel, "Introduction," to Thesis: Quintessentially Princeton (2007), p.3

2. See Omer Akin, "Thesis according to me..." presentation on Nov. 1, 2013; and his article "What is Design Research?," in Proceedings of the Research Training Sessions, 2012, Katholieke Universiteit Leuven, Sint-Lucas School of Architecture.

Appendix 1: DEFINING THESIS

"It is useful in thinking how a thesis might contribute to your own knowledge and that of others, to make a criticism of present practice and use the thesis to answer what it is that should be done." - Jack Meyer

"Thesis: A proposition to be maintained and defended in argument, formerly one publicly disputed by a candidate for a degree in a medieval university; hence: an essay or dissertation presented by a candidate for an academic degree as evidence of his or her knowledge of, and individual research in, a subject." - Webster's

"The Thesis project is of major importance to the education of an architect. Students have to define their interests and their questions about architecture through the definition of a theme, a site, and eventually a program. These projects are not always or necessarily meant to be problem solving proposals, but rather the place where critical issues can be made explicit and tested. What unifies the Thesis projects is that they are all based on philosophical and conceptual values and beliefs, and in that respect it is the hope of a teacher that this will be an experience that will inspire the students for a search that will last a lifetime."
– Diana Agrest, Cooper Union

"Within the current state of the profession, given its highly collaborative and non-authoritative nature, there is no longer any relevance for the *personal* thesis... [The typical thesis] delves into a highly-nuanced, bottomless abyss... [losing] the ability to communicate with the outside world and the profession at large, thus losing their relevance in discourse overall.... [Often] it's a good project but there is no thesis... [meaning] students today either lack the skills and discipline needed to formulate a poignant argument, or the world is no longer interested in what these arguments have to say."
– Sylvia Lavin, UCLA, as paraphrased by Tim Do

"More than any other academic experience, the senior thesis embodies the defining characteristics of undergraduate education... The thesis gives the student the opportunity to pursue original research and scholarship on a topic of the student's own devising, with the guidance and supervision of a faculty adviser. What is most important, thesis writers and faculty members agree, is less the subject matter itself than the contribution of the thesis in developing traits that augur well for future success, no matter what one's professional and civic commitments. These include mental discipline; independence of mind and judgment; the capacity to focus and pursue a subject in depth; the ability to design and execute a complex project; the skills of analysis, synthesis, and clear writing; and the self-confidence that grows from mastering a difficult challenge. At its best, the thesis enables students to make their own contribution to knowledge in their respective disciplines."
- Nancy Malkiel, Princeton

"Thesis is process. It connects architectural theory and practice through advanced study of the professional and cultural issues that together give purpose and meaning to design." - BAC

"A thesis is, by definition, a proposition based on investigation and observation... As constructive as the above definition has proven to be in many fields of study, it cannot be readily used to structure investigation in the field of architecture. The definition requires modification or in the least greater specification... An architectural thesis differs from a generic thesis insofar as it is not so much a hypothesis regarding the nature of the phenomenon under investigation, as it is a posture assumed or a stance taken on the theorem that is the phenomenon under investigation. It is different insofar as it seeks to understand not so much a thing as a theorem, with respect to which it must then position itself: affirmatively or otherwise. An architectural thesis is different insofar as it must first analyze in order to understand, and understand in order to construct again: in affirmation or not."
- Parsons

"The development of an independent position—the autonomous framing of a question, the invention or identification of a methodology, and the continuous cycle of critical reflection—is as essential to the student's experience as is the actualization of the proposition and creation of the artifacts that constitute our métier. It requires a solid theoretical foundation that allows for the student to develop a critical self- awareness of his or her own methodology as it relates to the larger context of the tradition in a contemporary manner." - Jemtrud

"Thesis is a proposition, a proposition which results from a critique and re-examination of the role of architecture as a critical participant in the conditioning of (public) space. A thesis should offer a relevant view of the contemporary world of design and architecture. A thesis demands that the student take a position and have something to say, something to contribute to the ongoing discourse in the widening sphere of architecture. A thesis is also curious, and should be interested in the pursuit of something unknown. It requires a desire to know something further.... Thesis provides an opportunity to use the architectural project as a vehicle for speculation into the potential for architecture to help form and question a society's processes and intellectual aspirations." - McGill

"Thesis should be evidence of the student's ability to carry out independent investigation and to present the results in clear and systematic form. Preparing a thesis assures students' expertise in a chosen area of architecture and reinforces a systematic, critical approach to architectural design." - U.Washington

“A thesis is a proposition with many qualifiers and variables with three main parts: a) Underlying assumptions: that which you don’t have to prove; b) Hypothesis: potential answers to a problem you define. This is never a question, but to propose a response: Descriptive, exploratory, and explanatory; c) Paradigm: what is essential to the argument, the basis on which your argument rests. Those involved in the discussion must agree on the paradigm, it sets the base on which you control the conversation. Thesis will not prove anything. It is a framework that is set up to help others assess its success or failure. Don’t solve an unsolvable problem. The solutions can actually change the paradigm. However, the paradigm can change without you knowing it.” - U.Cal. Berkeley

“Defining a thesis is not an easy task, not even for the faculty under whose auspices it comes about. However, it would probably be safe to say that in principle a thesis constitutes the threshold between the student and the professional, and between architecture as a subjectivist fantasy and architecture as an intellectual discourse. A thesis should try to transmit knowledge and intention in a way that can be both rigorous in locating boundaries in an existent discourse, and yet poetic in its capacity to reach beyond the immediate problem to some larger issue: in our case, to the open question of architecture's position in society. This ideal has to be framed, however, within the context of a constantly mobile whole. Institutions, determined and weighed down by the long history of their pedagogical, ideological, and academic commitments, set up expectations about what is and is not a 'thesis' without those expectations ever being put into writing or expressed in words. The thesis thus becomes part of a *mysterium* that the student is meant to unravel. The result is an almost Darwinian-styled logic that gives preference to those who are best equipped emotionally and intellectually for the task. But this does not mean that the institution is absolved from the responsibility of guiding the student or of reflecting on the successes and failures of its approach.” – M. Jarzombek, MIT

“Thesis provides an opportunity for the student to systematically explore a coherent line of investigation of issues relevant to the field of architecture. Such investigation is based on philosophical and conceptual values and beliefs developed and articulated through rigorous and critical research. The Thesis is an intellectual position laid down or to be advanced. It is the first stage of the dialectic- discussion, that is, discussion and reasoning by dialogue as a method of intellectual investigation. The Thesis demands that a student take a position and have something to say that is relevant to the discursive field that it inhabits and/or its wider cultural context.” - SPSU

“There are as many different approaches to independent research as there are thesis topics, and the Thesis Program provides the flexibility to pursue those independent interests freely and rigorously. Independent research could begin with general issues of current architectural theory and practice and then proceed to specific questions of program, site and technology as vehicles to challenge and develop those issues. Independent research could begin with an interest in a specific building type, program, or technology and arrive at a set of theoretical issues and interests that constitute a relevant theme. Any area and method of investigation should draw on the resources of a student’s educational development; it could derive from successful research methods and projects completed in previous semesters. It is essential, however, that the student maintain a clear relationship between the topic of study and the methods being deployed to examine that topic.” - Harvard GSD

“The meaning of prosthesis depends on that of the root *thesis*, from the Greek for "placing," a "position," a "proposition," "laid down," to be "maintained against attack," to "make a stand." This figure of standing in a place organizes the Western philosophical tradition in which theory is understood as the construction of arguments that can be defended, theses that stand up. Theory has always described itself as a kind of building. The philosopher is a kind of architect who pays attention first to the ground, establishing secure foundations, and then applies structural principles in order to construct a sound thesis, a solid structure standing in a place, or, more precisely, a structure that places, a standing that defines place... Nowhere is the constitutional nature of the architectural "metaphor" more evident than in the university. The university is literally the space of the thesis. Since its origin at the beginning of the thirteenth century, its central activity has been the "disputation"in which "theses" would be defended. The test for all degrees was the ability to defend a thesis by identifying what makes it stand up. This was done by correctly applying the accepted structural/logical rules taken mainly from Aristotle's *Topics*, a "theory of places" that specified all the different ways a thesis could be either "constructed" or "demolished." The key function of these dialectical ceremonies was to define the place of things by establishing their structural relationship to certain accepted grounds. This idea everywhere organizes the university. As Heidegger argues, the concept of the university is based on the search for grounds and foundations that is philosophy. In this sense, the university is everywhere philosophical. Hence the long debate as to whether philosophy should have a designated place within the university just like the other faculties, or have a higher place or occupy each faculty in an organizational role. What each of the different accounts of the university share is the claim that it is, first and foremost, a space of construction.” - Mark Wigley, Columbia

“Revisiting the Architectural Thesis: Five Myths There are many assumptions students have about the thesis, many of which are misguided (I know from experience as a former student), so I offer my suggestions in the service of dispelling particular myths.

1) The myth of linear process: One day's effort does not seamlessly and flawlessly lead to the next; nor is a project like a documentary film that you record throughout its development and play back in the order in which events transpired. Similarly, research does not occur exclusively in the beginning, and design does not occur only at the end. Both forms of investigation are important throughout the process, and you must constantly revisit the premise of the work as well as its physical effects during every step of development.

2) The myth of complexity: Don't burden design with richness; find richness through design. Many thesis projects try to conquer the world with ambitious ideas, complex programs, and conflicted sites. None of these aspirations is inherently bad, but a thesis should not merely serve as the design solution for complex circumstances. Architecture is often the result of simple, elegant ideas of sufficient intellectual depth and rich possibilities and interpretations readily emerge as a result.

3) The myth of the singular, synthetic solution: A thesis does not have to produce a single result. Some of the most compelling projects I have seen offer several potential manifestations at multiple stages of the work. In these cases, the jury is inclined to evaluate the student's thinking process rather than one developed proposal.

4) The myth of total originality: Innovation is welcomed, but it must be contextualized. Analyze precedents throughout your process, and include them in your final presentation. There are few things more unnerving to jurors than a design that lacks reference to architectural precedents, especially significant and obvious ones. Even if your design departs radically from precedent, adequate references can reinforce your proposal by providing relevant information. Also, be sure to cite your references visibly and adequately.

5) The myth of playing it safe: A thesis should be about bold experimentation and risk-taking. Polite projects that seek to offend the fewest number of people waste everyone's time. An architectural thesis should make a contribution to the discipline of architecture, and conventional or lackluster strategies won't cut it. Of course, radical approaches are not sufficient without a means to measure them. You must demonstrate an ability to evaluate your decisions and define their implications.” - Blaine Brownell

“Thesis: A simple verbless concept, usually consisting of only one or two words (e.g., "one"). Contrary to a common misunderstanding, the thesis is not a proposition (a statement affirming or denying something), an assertion, or a detailed argument. Sometimes each of a dialectic's three stages consists of two concepts.

Antithesis: Another verbless concept that is the opposite of the thesis (e.g., "many," the opposite of "one"); it is not just something different or a possibly lengthy "reaction" to or refutation of the thesis. When the thesis has two concepts, the antithesis has the two opposite concepts.

Synthesis: A third verbless concept that somehow combines the thesis and antithesis into a sort of compromise (also called a dialectic). The word "synthesis," in its general meaning, refers to a combining or putting together of parts. (Synthesis is the opposite of analysis, taking things apart.)
- Hegel’s Dialectic”, from Wikipedia

“Design is a way of inquiring, a way of producing knowing and knowledge; this means it is a way of researching.... Sciences and science-like activities have a stranglehold on the idea of research, as the view in sciences is that knowledge is obtained and verified through conducting research. This is the dominant paradigm. Within this paradigm it is research that produces knowledge and there is no other means for obtaining it. Other things which are loosely called knowledge are in fact something else – beliefs perhaps, or skills.” - Peter Downton

“[Unlike the delimited and benign problems of Science, problems in Design are ‘wicked’]: 1. There is no definitive formulation of a wicked problem; 2. Wicked problems have no stopping rule; 3. Solutions to wicked problems are not true-or-false, but good-or-bad; 4. There is no immediate and no ultimate test of a solution to a wicked problem; 5. Every solution to a wicked problem is a ‘one-shot operation ’, because there is no opportunity to learn by trial-and-error, every attempt counts significantly; 6. Wicked problems do not have an enumerable (or an exhaustively describable) set of operations, nor is there a well-described set of permissible operations that may be incorporated into the plan; 7. Every wicked problem is essentially unique; 8. Every wicked problem can be considered to be a symptom of another wicked problem; 9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem’s resolution; 10. The planner has no right to be wrong.” - Rittel & Weber