

Course Syllabus

Scientific and technological progress have accelerated rapidly in the past 100 years. To a large degree this is because of a certain shift in world view. It is not that Western civilization was composed of an unusual level of intelligence, but rather that a certain style of logical thinking was developed. This approach may have inherent weaknesses, but it has proven useful to the advancement of human knowledge as is related to “hard sciences”, and has even been useful in clarifying thoughts in other areas of endeavor.

Francis Bacon and Renee Descartes provided useful approaches to assembling and testing knowledge, which forms the basis of most current scientific research and which allows us to attack a specifically defined problem or issue with a certain intellectual rigor. This class will introduce the student to such ways of thinking, to the thesis process and other research tools, and discuss the strengths and weaknesses of the thesis as a way of increasing knowledge in different kinds of applications. Indeed, within the fields of Architecture and Building Science, we are often more interested in overlapping areas, or their interaction, which makes the application of the thesis process particularly interesting.

USC Building Science currently allows individualized thesis topics. This means that the student is not confined to specific coursework after the core and one advanced courses, and may look for areas of overlap and special interest. This gives the student great freedom. It is also dangerous, in that the student can flounder. For that reason, it is important that the student understand the thesis process completely; the student will use it to become responsible for their own educational goals, and whether or not those goals are achieved. It is also necessary to find faculty members who are knowledgeable in the area of interest and willing to work with the student. Make no mistake, a thesis is not easier for the student nor the instructor. It requires a great deal of individualized work. But it can be extremely rewarding.

It is the goal of the USC MBS program to educate students, and in some small way add to the knowledge base in the Building Science areas. It is the goal of this course to introduce students to the methods used in that search for knowledge and to topics which are strongly supported at USC.

The course will be divided into four segments:

- I. Thesis process
- II. Research tools
- III. Thesis topics
- IV. Work on individual thesis development

COURSE OUTLINE

Please note: This is subject to rearrangement based on the meeting time chosen by the students at the first class session.

Date Week Lecture Topic /Due /Assignment

I - Thesis Process

- | | | | |
|------|----|--|------|
| 8/23 | 1. | The Scientific Method
(in class) thesis interests | |
| 8/30 | 2. | Thesis Process, Sample Theses | none |

II - Research tools

- | | | | |
|-----|----|---|--|
| 9/6 | 3. | Literature search tools (library, web, net)
and Bibliographic “Cards”
PLAGIARISM! | ASSIGN: Prepare Bib Cards for next class |
|-----|----|---|--|

III - Thesis topics

- | | | | |
|-------|-----|---|---|
| 9/13 | 4. | guest lecture: Doug Noble, Theory and Façade Tectonics | DUE: Bibliographic “Cards” |
| 9/20 | 5. | guest lecture: Marc Schiler, Glare, Solar Convergence and Climate Responsive Design | |
| 9/27 | 6. | guest lecture: Joon-Ho Choi, Human Comfort, Controls, and Occupant Sensors | |
| 10/4 | 7. | guest lecture: Goetz Schierle, Structures | |
| 10/11 | 8. | guest lecture: Kyle Konis, Daylighting, Intelligent Building Skins | ASSIGN: Prepare 3 thesis topics for 10/27 |
| 10/18 | 9. | Guest lecture: Doris Sung, Thermal Bi-metals, Self-Adjusting Building Skins | |
| 10/25 | 10. | Lecture: Karen Kensek, BIM Applications ~ | |

IV - Work on individual thesis development

- | | | | |
|-------|-----|---|---|
| 11/1 | 11. | class discussion of proposed topics | DUE: 3 Topics
ASSIGN: Prepare a thesis proposal by next class, including proposed committee. |
| 11/8 | 12. | Class discussion of Thesis and Committees | DUE: Thesis proposals
ASSIGN: Prepare a schedule for thesis |
| 11/15 | 13. | Class discussion of Thesis, Committees and Schedules | DUE: Schedules |
| 11/22 | 14. | Thesis Secretary’s Office – forms, format, submittal processes, | ASSIGN: Electronic Thesis Notebook with Proposal, Committee and Schedule. |
| 11/29 | 15 | Individual Discussions (sign up) | |

Final Exam **Semester grade is based on Electronic Thesis Notebook** (of collated assignments)

Disabilities

Over the years we have had many students in the course with various disabilities and have had excellent experiences thus far. Any Student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to Prof. Schiler as early in the semester as early as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Critical Dates and Religious Observances:

The university recognizes the diversity of our community and the potential for conflicts involving academic activities and personal religious observation. The university provides a guide to such observances for reference and suggests that any concerns about lack of attendance or inability to participate fully in the course activity be fully aired at the start of the term. As a general principle students should be excused from class for these events if properly documented and if provisions can be made to accommodate the absence and make up the lost work. Constraints on participation that conflict with adequate participation in the course and cannot be resolved to the satisfaction of the faculty and the student need to be identified prior to the drop add date for registration. After the drop add date the University and the School of Architecture shall be the sole arbiter of what constitutes appropriate attendance and participation in a given course.

Professional Degree:

The USC School of Architecture's five year BARCH degree is an accredited professional architectural degree program. All students can access and review the NAAB Conditions of Accreditation (including the Student Performance Criteria) on the NAAB Website, http://www.naab.org/accreditation/2004_Conditions.aspx.

2010 Imperative Statement:

The Architecture Faculty have voted to accept the 2010 Imperative-- to improvement of ecological literacy among the students and faculty and to achieve a carbon-neutral design school campus by 2010. To that end, this class will address issues of carbon neutrality and supports the following goal for all designs produced in the USC School of Architecture:

“The design should engage the environment in a way that dramatically reduces or eliminates the need for fossil fuel.”

This does not mean that no other issues are to be addressed. Precisely to the contrary, all design issues are fair game, but in the background, all will be considered within the generalized goal of reducing or eliminating the need for fossil fuel.

Dear Doug,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. We would love to hear from you for the September 13 class. You could present work relating to Façade Tectonics or theory or anything else which you might think would be a good thesis topic or might inspire a good thesis topic.

Please let me know if that is possible, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

Dear Karen,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. I don’t know if you are interested in taking a limited number of thesis students or not. If so, we would love to hear from you for the September 20 class. You would be most welcome to show a PowerPoint or access a web site or to do whatever you think might be useful in order to show past work and topics which you would find interesting in the future.

Please let me know if that is possible, or if some other date is preferable. I’ve attached a semester outline for your information. We can shuffle things, if necessary.

Thanks,

Marc

andersca@usc.edu

Dear Anders,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). Are you interested in taking any thesis students? IF so, we would love to hear from you about your past work and future interests. Let me know if that interests you.

Thanks,

Marc

Dear Joon-Ho,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. We would love to hear from you for the September 27 class. You could present work on human comfort, Post Occupancy Evaluation, interactive human sensing HVAC controls, or anything else which you might think would be a good thesis topic or might inspire a good thesis topic.

Please let me know if that is possible, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

Dear Goetz,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. We would love to hear from you for the October 4 class about your past work with the Northridge quake, long span structures or design applications. For your session, we would move the class time to another time, if necessary. You could include the seismic shake table and any other possible thesis topics. Some of the students are currently taking the 513 class and some haven’t even seen the kind of things you do, so it would be good to have a brief (45 minute) separate lecture about thesis topics.

Please let me know if that is possible, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

Dear Kyle,

The Introduction to Thesis class meets on Tuesdays at 2:00 pm in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. We would love to hear from you for the October 11 class. You could present work on daylighting, coordinating view and solar controls, landscaping and clean air, or anything else which you might think would be a good thesis topic or might inspire a good thesis topic.

Please let me know if that is possible, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

Dear David,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We hope to introduce the “Building Science” faculty and the kinds of things that they are interested in, during some of those lectures. We would love to hear from you for the October 27 class. You could present work relating to theory or to BIM or Revit or scripting or anything else which you might think would be a good thesis topic or might inspire a good thesis topic.

Please let me know if that is possible, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

Dear Doris,

The Introduction to Thesis class meets on Tuesdays at noon in the Master of Building Science lab (SE corner, Watt Hall 3rd Floor). We have often spoken about getting a Building Science student interested in providing some sort of measurements for some of your ideas and experimental work. We always seem to think of it, too late.

The correct way to go about it would be for you to present your work to the class. We have a slot free and would love to hear from you for the October 18 class. You could present work on Thermal Bi-metals, Active Skins or anything else which you might think would be a good thesis topic or might inspire a good thesis topic.

Please let me know if that sounds interesting, or if some other date is preferable. We can shuffle things, if necessary.

Thanks,

Marc

MEMORANDUM

To: Ruth Wallach
From: Marc Schiler
Re: Arch 596 tour of library
Date: August 25, 2011

As you know, we have a new batch of Master of Building Science students. They have all indicated that they would like to tour the library (either for the first or second time). Some thought that they could pick up more the second time around and some were simply unable to attend the orientation day. Would it be possible for you to give them a quick tour of the library on Thursday, September 8 at 5:00pm? The class lasts only an hour and could even be shorter if it doesn't take that long. It would be most useful if it could include:

The physical environment of the library, including:
the Dewey system and Library of Congress areas (and a brief explanation of those systems)
the reference desk and the materials available,
the locations of the new periodicals (for browsing)
the locations of the bound periodicals,
computer access and study carrels,
available CD-ROMs and how to access them,
Avery index, engineering indices, any other useful indices
HOMER and other UC system indices and
a discussion of interlibrary loan procedures vs. going to UCLA and reading the book there.

A brief lecture on the value of the collection and how cutting pages out of books hurts everyone would also be in order.

Last time you also gave a fantastic talk on proper footnoting of references.

Please let me know if that's OK.