Graduate Architectural Design/Thesis II Project

Catalogue Description: ARC554-943 On-line Studio Syllabus

Continuation of the ARC552 online studio setting began Summer 2015 resulting in the conclusion, presentation, and final approval of the individual design/thesis project in an online studio setting.

Prerequisite: Successful completion of ARC 552 or approval of the Head of the Graduate Program

Studio/Faculty Contact hours:

- Tuesday: 4:00 – 9:00 pm central time (bi-monthly per schedule to be provided)
- Wednesday: 4:00 – 9:00 pm central time (bi-monthly per schedule to be provided)
- Other: email and online by appointment

Instructor/Thesis Chair:

Robert Swenson, Architect & Heritage Preservation Consultant (Associate Professor Emeritus)
618-967-3016 or 618-453-3734 (SIU SoA)
robert.swenson41@gmail.com

This syllabus material has been developed based on my ARC554 Fall 2014 syllabus and course description revised for the online program, from syllabi prepared by Professor Michael Brazley, Summer 2014, Professor Jon Davey, Summer 2014, Professor Craig Anz in 2009, Walter Wendler & Steve Turnipseed in 2012, 2013, 2014, and official documents of the School of Architecture and Southern Illinois University

Statement of Purpose:

As an extension of the research components, the purpose of this studio is to complete the development of an architecture that effectively and critically engages ongoing research and its role in architectural and design endeavors. Students will continue to extend foundations for research, basis issues and concepts, methods, and programming to the design of the thesis project. The culmination of previous work on the thesis project will indicate, through an architectural program and subsequent design, the pragmatic understanding of architecture that is generally expected of professional degree graduates and entry-level professionals.

The goal is to have a total architectural project that consciously denotes formal inquiry and critical thinking, connecting one’s creative endeavors within a greater body of knowledge, but also connects the essential reasoning for architectural artifacts. The thesis product will be presented to the online class section cohort and committee members at scheduled review times, where recommendations will be made toward fulfillment of final requirements and formally at the SIU School of Architecture at the end of the semester for “Final Review and Approval” prior to graduation. The student will prepare for these reviews a defined set of criteria and significant questions to present to their cohorts and reviewers and section cohort members for input prior to formal (or informal) presentations.

These reviews are intended to foster interaction and co-tutoring, thus building collective and critical knowledge bases, but also to guide us effectively through the processes. While completing the development of a comprehensive graduate thesis project, you are encouraged to extend your horizons and see the diversity of viewpoints through outside, formal peer-review and possible professional and/or organizational presentations.

Course Objectives:

Upon completion of this course, the student will have completed the requirements for graduation, including:

1. Develop an architectural project that is the culmination of the online design studio experience.
2. Apply design principles developed in previous graduate online studios and seminars.
3. Develop the use of innovative and emerging design technology.
4. Apply sustainable design principles in the urban and regional planning process.
5. Develop individual personal architectural goals and interests.

6. Continue to prepare reasoned and responsible informed design initiatives through formal research of allied design disciplines and convey their strategy through effective verbal, graphic, and written skills.

7. Continue to critically understand and apply basic standards for research quality, responsibility, judgment, and ethical practice as well as the basic premise of to “do-no-harm,” albeit extended into responsible design practice.

8. Produce a final version of your architectural thesis-design project at a “Design Development” level 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 Graduate program design criteria.

9. Complete the corresponding written documentation into thesis format to meet university requirements and NAAB criteria for a professional degree.

10. Present for final review and approval by your Thesis Committee.

Methodology

Desire2Learn and AdobeConnect will be used throughout the semester in several ways. Assignments and other handouts will be available on the D2L site for your use. You will post your individual in-progress work online periodically, assembling a database for you and your classmates to access. You should be able to engage with anyone in your section at anytime. You will also be expected to upload any and all relevant information you find related to the overall goals of the design thesis project for you classmates to use as well. See Semester Work Requirements and Calendar below.

Coordination

This thesis studio will again NOT be co-taught, meaning that each studio section will operate as a single entity facilitated by your assigned faculty Thesis Project Chair who is responsible for supervising, educating, and grading. All students in each section will have access to a second comprehensive ARC554 D2L site. TO BE CONFIRMED Throughout the course of the semester you will have individual crits and reviews on a weekly basis with your faculty Chair individually and/or together with other members of your particular section only. We expect (or want) that you will take the advice and suggestions of your outside critics and classmates to help formulate your own design decisions. Analyze and understand how they have the potential to affect your project, and make your decisions based on what pushed your project most purposefully in the direction of your concept or thesis. Every choice you make has many, many options. It is ultimately up to you to choose the option that you believe is right for your design project. We are here to help you explore and understand the potential those options have for your project.

Studio Space Supplies, Equipment

This will continue to be a virtual studio with each student in their own respective satellite location, each completing a different and unique thesis design project. Each student is responsible to provide all pertinent materials required to work in studio toward meeting deadlines, reviews, and/or the completion of their respective final projects.

Attendance/Production Policy

This section will work independently with their respective faculty and committee members. In order for the studio/course and your own experience to be fully developed, each individual needs to be abreast of the assigned workload. One appointment per week for a progress check will be required of each student. Each student is required to present on-campus at the end of the semester for Final Review and Approval by the thesis committee.

Student Conduct

Please review Chapter 7 Student Conduct Code in the SIU UNDERGRADUATE/GRADUATE CATALOG regarding University policy regarding Acts of Academic Dishonesty - See the SIU Syllabus Attachment Fall 2015 provided on our D2L course site and by email attachment. In particular to this course, students are to do their own work. Do not trace, lift, sample, or copy, including electronic copies, of any other’s work unless specifically cleared with your instructor and properly cited/sourced. If there is any question, do not hesitate to ask. Additional NOTE: This class will be conducted in a professional manner and as such will also be considered a ‘zero tolerance’ atmosphere. Any discrimination towards another person or otherwise will be acted upon accordingly.
If there is any problem or concern that you have which might impact your performance in this class, please inform the instructor the first week of class. To be registered for this class, you must satisfy the prerequisites for the class. If this is not the case or you are uncertain, you must contact your instructor, advisor, or Chair immediately. NOTE: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protections for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the appropriate campus department involved with services for students with disabilities. 

See the “SIU Syllabus Attachment Fall 2015” provided on our D2L course site and by email attachment.

The Studio Culture Policy in force for this class is posted on the web at: http://emarch.architecture.siuc.edu/studio-

Projects are due on the hour and date specified for submittal. You are to submit in PDF format as email attachments direct to my email account robert.swenson41@gmail.com and to the D2L Dropbox for this course to meet the required deadline. Late projects will be considered for evaluation only with prior approval by your Thesis Chair or the Head of the SoA Graduate Program.

- Each student will be working individually and shall be completely responsible for his or her own work.
- Each project will have associated with it a set objectives or expected behavioral outcomes. The purpose of attaching these outcomes to the projects is to insure that a range of awareness and understanding are developed, expanded and tested.
- Areas of interest will form the basis for grading on each project. These criteria are adopted for the NAAB accrediting requirements for professional programs in architecture (listed below)
- All grades for thesis work are no longer Pass/Fail, but A (Excellent), B (Average), C (Unacceptable for Graduate School Standards), or DEF (Deferred – same as incomplete). Students will be assigned an appropriate grade if a student successfully presents for Final Review and Approval at the end of the semester. Students assigned a DEF grade will have the opportunity to register for ARC601 in Spring 2016 to complete the work under Professor Dobbs or another professor to be determined.

Design Development Phase You will continue to be getting advice from your chair (and committee members). Robert Swenson is the instructor of record for Section 943 of this class and will continue to be your Thesis Chair. During the ARC552 course, you were encouraged to develop a relationship with an architect, other design professional, or expert in your project type and focus in YOUR particular city or locale to serve as an informal Thesis Committee member and critic/advisor to your project. You are to continue to make use of their expertise to help guide you into the research and real-life situations needed to develop accuracy and depth to your thesis project. All students in this studio section should have developed during the Summer 2015 an approved Facility Program document and your thesis project completed a “Schematic Design Phase” level. The Facility Program document will be incorporated into your final written design/thesis booklet. It is my belief that most of you have successfully addressed:

1. A comprehensive Facility Program document (to be an integral part of your written thesis document) that includes:
   - Your individual Thesis Statement/Synopsis
   - Challenges and issues from the building type or project that you've identified, including but not limited to physical, social, economic, aesthetic, cultural implications, and issues related to Sustainable Design as presented in the Living Building Challenge document.
   - Client description – activities and needs
   - Precedent Studies and Case Studies
   - Program Data: Detailed Space and Adjacency requirements
   - Zero Net Energy and Zero Net Water design requirements and strategies.
   - Site Selection and Analysis
   - Code(s) Analysis – Life Safety, Building, Special Use requirements
   - Preliminary massing studies
   - Identified, selected, and completed site research.
   - Compiled a Bibliography, References / Citations representing an understanding of the project type and its parameters.

2. A completed and approved Schematic Design Phase posters based on the above comprehensive Facility Program document to include: (All presented in digital format) Preliminary / Schematic Design level building floor plans and site plans that are responsive to the site selection criteria and site analysis.
• Summary of spaces, function, and square footages, including circulation and other support spaces.
• Schematic Design level exterior elevations.
• Schematic Design level building and site sections.
• Preliminary assessment of Net Zero Energy and Net Zero Water applications that will make a successful project.
• Preliminary assessment of appropriate materials, structural systems, HVAC systems, and other material aspects you are contemplating for the project.
• Schematic Design level Cost Estimate based on building type(s) and site development – sq. ft. and/or cu.ft. (R.S. Means) The Schematic Design Phase Cost Estimate based on building type(s), square footage and/or volume needs to be complete by Friday Sept 4 (before Labor Day Weekend).

NOTE: Any revisions required for the ARC552 Facility Program and Schematic Design Phase design documents need to be submitted and approved by the beginning of Week 4 – Monday Sept 14. Per an AIA contract, these documents must be approved by the Owner (me in this case) before proceeding into the Design Development Phase.

3. Other NAAB requirements mentioned at the end of this Syllabus

DESIGN DEVELOPMENT PHASE – Process and Solution ARC554 will focus on the Design Development Phase of your graduate thesis design project, based on expectations stated in AIA Documents – Professional Service Agreements B101-2007 and particularly B-101-2007 SP (agreement for a Sustainable Design Project). (See ARC552-Assignment 5 for references to these documents, probably discussed in your Professional Practice course).

The Chapter of your Thesis Book related to the Design Development Phase should include:

1. Summary critique of Schematic Design Phase proposals / redirection
   • Revised program areas and relationships
2. Site and Building Planning
   • Site / Landscaping Plan
   • Floor Plan(s)
   • Building Sections
   • Exterior Elevations
   • Wall Sections and special details
   • Structural Framing Plan(s) – Preliminary/Schematic Level
   • HVAC Plan(s) – Preliminary/Schematic Level
   • Electrical Power Generation Plan(s) – Preliminary/Schematic Level
   • Lighting Plan(s) - Preliminary/Schematic Level
   • Water Harvesting/Treatment/Storage – Design Development Level
4. Study Models (photos) - design process and presentation if useful
5. 3-D Renderings (Digital and/or hand)
6. Major Materials – CSI format Outline Specifications each major material or system (one page maximum per section).
7. Design Development Level Cost Estimate: Update of the overall square footage and estimated cost (R.L. Means for building type and region . . . or other technique appropriate to your project – Use CSI Format)

CHAPTER RE: ANALYSIS There should be a chapter in your thesis book in which you provide a critical Self-Analysis of Design Development Solution. You should provide answers to the following questions:
• Does your proposed solution solve the initial problem statement.
• Next step recommendations for further research and development.

We have 16 weeks, including breaks, before you submit your work in its final form digitally on Monday, Dec 14, 2015. We will plot and print your final submissions and you will formally present your design thesis project publically at the School of Architecture on Thursday, Dec 17 and/or Friday, Dec 18 prior to a formal commencement ceremony on Saturday, Dec. 19, 2014.
Progress Submissions: We will continue to meet individually and together online – approximately every two weeks (instead of weekly - based on a separate Calendar to be provided) to monitor progress and update completion status. Student to provide “Minutes” of each meeting within 24 hours of the meeting which includes a list of items required for completion and graduation with an estimated % complete on each item weekly.

Prior to the final presentation, I will require only ONE progress submission at the beginning of the 13th week (Monday, Nov 16) at which time you should be 90% complete with all your written and graphic work. This will allow me to make any final suggestions and recommendations as you finish your work due no later than Monday noon, December 14, 2015. I recommend that you submit your work periodically to me and your thesis committee/consultants at your own timeframe and schedule when it is approximately 50% complete and 75% complete for our review, comments, and suggestions. You are welcome to present to others in this or another section for their feedback and comments at those times as well.

Final Submission: Your final submission will include a complete “written thesis document” to include sections related to the Facility Programming Phase, Schematic Design Phase, the Design Development Phase, with appropriate graduate thesis level cover page, front end, appendix, and reduced versions of all required ARC552 & ARC554 posters. You will provide a printed copy of this document – professionally bound or as a typical academic master’s thesis black hardbound book. You are to provide the SoA with a PDF version for the record, but you may keep the book for your records. This will be included part of your final thesis defense presentation along with the following: a minimum of eight - 36” high by 48” long posters (or four – 36” wide x 84” high posters) with titles that together fully describe and illustrate your design thesis project. You are to provide the SoA with PDFs of these final posters. You are required to personally present and defend your design thesis project to a public audience at the SIU School of Architecture for final review and approval prior to graduation.

The content and layout of the posters is up to you, but it should include information about the your Thesis Project, the Facility Program, the design process during both Schematic Design and Design Development, Schematic Design and Design Development Cost Estimates, and typical Design Development drawings and pictorials including Site Plans, Floor Plans, Building Elevations, Wall Sections, Interior and Exterior Pictorials, study models, all with an emphasis on Living Building Challenge and Net-Zero-Energy & Water strategies. You are also encouraged to use one of the two large monitors in Quigley Gallery to digitally present your design thesis project in conjunction with the thesis booklet and posters mentioned above.

School of Architecture – Fall 2015: The Fall Semester Thesis Studio Calendar is a separate document on D2L and as an email attachment. It is intended to provide for the coordination of due dates for design project presentations & reviews, written documents, lectures, and other activities central to the life of the students in our Master of Architecture program. Our collective adherence to it will provide the highest and best educational opportunities for our students by allowing focus and unnecessary conflict in schedules. NOTE: Please refer to the calendar that is set up in D2L as the “official” calendar

Special Notes:  
Fall classes begin Monday, August 24, 2015  
Labor Day Holiday - Monday, Sept 7, 2015  
Fall Break – Sat, Oct 10 thru Tues, Oct 13, 2015  
Veterans’ Day Holiday – Wednesday, Nov 11, 2015  
**Final Presentation at SoA Carbondale, Thurs, Dec 17 & Fri, Dec 18, 2015**  
Commencement to be held December 19, 2015 at SIU Carbondale campus

All Breaks begin officially at 10:00 p.m. the night before and end at 7:30 a.m. the morning after the respective noted beginning and ending dates listed, unless otherwise.
NAAB STUDENT PERFORMANCE --EDUCATIONAL REALMS & STUDENT PERFORMANCE CRITERIA  (applicable to ARC552 & ARC554)

Understanding — The capacity to classify, compare, summarize, explain and/or interpret information.

Ability — Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.

Realm A: Critical Thinking and Representation:

Architects must have the ability to build abstract relationships and understand the impact of ideas based on research and analysis of multiple theoretical, social, political, economic, cultural and environmental contexts. This ability includes facility with the wider range of media used to think about architecture including writing, investigative skills, speaking, drawing and model making. Students’ learning aspirations include:

- Being broadly educated.
- Valuing lifelong inquisitiveness.
- Communicating graphically in a range of media.
- Recognizing the assessment of evidence.
- Comprehending people, place, and context.
- Recognizing the disparate needs of client, community and society.

NAAB A.1. Communication Skills: “Ability to read, write, speak, and listen effectively

NAAB A.2. Design Thinking Skills: “Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

NAAB A.5. Investigative Skills: “Ability to gather, assess, record, apply, and comparatively evaluate relevant information within architectural coursework and design processes.”

NAAB A.7. Use of Precedents: “Ability to examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles into architecture and urban design projects.”


Realm B: Integrated Building Practices, Technical Skills and Knowledge:

Architects are called upon to comprehend the technical aspects of design, systems and materials, and be able to apply that comprehension to their services. Additionally they must appreciate their role in the implementation of design decisions, and the impact of such decisions on the environment. Students learning aspirations should include:

- Creating building designs with well-integrated systems.
- Comprehending constructability.
- Incorporating life safety systems.
- Integrating accessibility.
- Applying principals of sustainable design.

NAAB B.1. Pre-Design: “Ability to prepare a comprehensive program for an architectural project, such as preparing an assessment of client and user needs, an inventory of space and equipment requirements, analysis of site conditions (including existing buildings), a review of the relevant laws and standards and assessment of their implications for the project, and a definition of site selection and design assessment criteria.”

NAAB B.2. Accessibility: “Ability to design sites, facilities, and systems to provide independent and integrated use by individuals with physical (including mobility), sensory, and cognitive disabilities.”
NAAB B.3. **Sustainability:** “Ability to design projects that optimize, conserve, or reuse natural and built resources, provide healthful environments for occupants/users, and reduce the environmental impacts of building construction and operations on future generations through means such as carbon-neutral design, bioclimatic design, and energy efficiency.”

NAAB B.4. **Site Design:** “Ability to respond to site characteristics such as soil, topography, vegetation, and watershed I the development of a project design.”

NAAB B.5. **Life-Safety:** “Ability to apply the basic principles of life-safety systems with an emphasis on egress.”

NAAB B.6. **Comprehensive Design:** “Ability to produce a comprehensive architectural project that demonstrates each student’s capacity to make design decisions across scales while integrating all SPCs: (See NAAB Website &/or previous course syllabi for full list and content)

NAAB 8B  **Environmental Systems**
“Understanding the principles of environmental systems’ design such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, and acoustics; including the use of appropriate performance assessment tools.”

NAAB 9B  **Structural Systems**
“Understanding of the basic principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems”

NAAB 10B  **Building Envelope Systems**
“Understanding of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture, transfer, durability, and energy and material resources.”

NAAB 12B  **Building Materials and Assemblies**
“Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse.”

**Realm C: Leadership and Practice:**
Architects need to manage, advocate, and act legally, ethically and critically for the good of the client, society and the public. This includes collaboration, business, and leadership skills. Students learning aspirations include:

- Knowing societal and professional responsibilities.
- Comprehending the business of building.
- Collaborating and negotiating with clients and consultants in the design process.
- Discerning the diverse roles of architects and those in the related disciplines.
- Integrating community service into the practice of architecture.