Course Description

Seminar devoted to the teaching, investigation, and discussion of technology and its impact upon contemporary architecture especially as it relates to Design Development of a Studio Project. Students have the opportunity to investigate significant technological trends and systems and discover applications and opportunities in Architectural Studies. Prerequisites: ARC554a or 554b or approval of Department Chair and the Instructor.

Course Objectives

Upon completion of this course, the student will be able to:

1. Review significant technological architectural and design process concepts.
2. Discuss and relate these ideas to contemporary architectural practice.
3. Develop understanding of how these ideas affect personal design goals and practice.
4. Conceptualize the interrelationships of architectural design and technological form.
5. Develop an understanding of Zoning and Building Code applications to technological form.
6. Apply concepts of Life/Safety to design.
7. Develop preliminary structural systems and integrate into a design.
8. Develop an understanding of Mechanical, Electrical, and Plumbing as well as Fire Protection applications to technological form.
10. Apply Department of Energy (DOE) as well as other applicable energy conservation concepts and tools.

Topical Outline:

1. See Ideation Sheet(s) and Panels required (Separate Handouts).

Textbooks

A. Referenced:


B. Suggested:


C. **Optional / Recommended:**


**EQUIPMENT / SUPPLIES / OTHER**

A. A 3-Ring Binder is highly recommended, with appropriate dividers to provide organization for the materials related to this course, including class notes/handouts, existing conditions, field notes and sketches and photographs. A flash drive and digital camera is also recommended.

B. Drawing, Sketching, Drafting, or CAD supplies may be needed as assignments develop.

**EXPECTATIONS**

A. Students are expected to actively participate in each class session by asking and answering questions, exploring solutions by discussing notes, concepts, and ideas in an informal manner. Students are expected to turn in all projects on time. (See Grading Policy / Evaluation below).

**Student Performance Criteria:** A strong emphasis will be placed on speaking and writing skills, critical thinking skills and research skills.

B. Attendance is a very important responsibility and students are expected to attend all class sessions. Absences will negatively affect your grade. After all other work is evaluated; each unexcused absence will result in a grade reduction. In a professional office/work situation, your clients and staff depend on you being available, your active participation, and the quality of your work. Typically, excellent attendance & work = excellent pay (grade); Erratic attendance & work - low pay (grade) OR Fired/ (failing grade).
C. Student Ethics & Conduct:

Unless work is assigned as a team, each student shall do their own work. Please review Section II of the Student Conduct Code in the SIU UNDERGRADUATE CATALOG, Specifically those portions related to the University policy regarding Acts of Academic Dishonesty and definition of "plagiarism".

D. Special Concerns: If there is any problem or concern that you have which might impact your performance in the class, please inform the instructor as soon as possible.

COURSEWORK

A. Class Format - Scheduled for two (2) 1.25 hour Seminar Sessions per week.

B. Classroom & Labs - NO SMOKING, EATING, OR DRINKING, HEADPHONES OR CELL PHONES will be allowed in any classroom or laboratory at anytime, including evenings without Instructor’s permission. Each student is to keep CAD stations or drafting boards clean using their own supply of desktop cleaner. Music players, radios, headsets, and similar equipment are not to be used during formal classroom or laboratory time.

C. Reading and research assignments could be made from the recommended texts or other manuals or publications, and sample drawings which will be made available or "on reserve" in the Library, Room 104.

D. Computer Lab - Those students desiring to use AutoCad, Revit or other software to produce graphic documents must have prior approval to be able to use the Computer Lab in Quigley 106. You will be required to sign-up for use of the Quigley 106 CAD lab.

E. Along with the assignments, much of this coursework requires you to apply concepts presented in Lecture and referenced in the readings and therefore requires careful study and decision making – mere memorization will probably not be very helpful.

NATIONAL ARCHITECTURAL ACCREDITING BOARD STUDENT PERFORMANCE CRITERIA

NAAB Student Performance Criteria (SPC) Categories:

B.3. Codes and Regulations: Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.

B.4 Technical Documentation: Ability to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

B.5 Structural Systems: Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

B.6 Environmental Systems: Ability to demonstrate the principles of environmental systems’ design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.
B.7 Building Envelope Systems and Assemblies: Understanding of the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

B.8 Building Materials and Assemblies: Understanding of the basic principles used in the appropriate selection of interior and exterior construction materials, finishes, products, components, and assemblies based on their inherent performance, including environmental impact and reuse.

B.9 Building Service Systems: Understanding of the basic principles and appropriate application and performance of building service systems, including lighting, mechanical, plumbing, electrical, communication, vertical transportation, security, and fire protection systems.

C.2 Integrated Evaluations and Decision-Making Design Process: Ability to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

EVALUATION / GRADING POLICY

A. Projects are due on the hour and date specified for submittal or presentation. Late projects will result in a full letter grade reduction for the first 24 hours late and an additional full grade reduction for each 24 hours thereafter, unless special circumstances have been approved by the instructor.

B. Student evaluation will be based on a combination of panel scores and the timely submission of possible assigned projects. Panels will receive individual scores and are subject to a revision score based on one or possibly two improvement opportunities per panel. In addition, the final course booklet of panels and supporting criteria will receive a final score. Attendance and evaluation of course participation will also be a significant factor in determining grades.

If a point system is invoked, Panels, Final Booklet, and possible exercises have the following relative values to be converted to the grading scale with the approximate point totals indicated below:

<table>
<thead>
<tr>
<th>Panel</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 points each x ~ 10 (minimum)</td>
<td>500 pts</td>
</tr>
<tr>
<td>Final Panel Booklet</td>
<td>200 pts</td>
</tr>
</tbody>
</table>

**APPROXIMATE TOTAL:** 600 pts

Midterm or Final Exams are not used in this course. Bonus Assignments (if applicable): value of points to be determined

C. **Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>A = 90-100</td>
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<tr>
<td>B = 80-89</td>
<td></td>
</tr>
<tr>
<td>C = 70-79</td>
<td></td>
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<tr>
<td>D = 60-69</td>
<td></td>
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<tr>
<td>F = 0-59</td>
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**Medical/Extenuating Circumstance Considerations:**

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with Disability Support Services (DSS) to help us determine appropriate academic accommodations. DSS (618.453.5738; http://disabilityservices.siu.edu/) typically recommends accommodations through a verification form provided to the student. Any information you provide is private and confidential and will be treated as such.
Emergency Procedures:

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program (attached). Emergency response information is available on posters in buildings on campus, available on the BERT’s website at www.bert.siu.edu, Department of Public Safety’s website www.dps.siu.edu (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

Notes and Comments:
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings in Quigley Hall and elsewhere on campus, available on the BERT’s website at www.bert.siu.edu, Department of Public Safety’s website www.dps.siu.edu (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

If an evacuation of Quigley Hall is required during an emergency, ALL School of Architecture students, faculty, and staff (from all three programs) are to gather ASAP after exiting in the grassed area east of the Quigley Courtyard and covered walkway area to determine if there are people unaccounted for at that particular time. There are five SoA faculty/staff members who are part of the SIUC Quigley Hall BERT Team (Brazley, Frisch, Kidd, White, and Wojnarowski) and will be facilitating the necessary emergency procedures. There are **BERT Posters** located in numerous public areas throughout Quigley with emergency phone numbers.

**Do not hesitate to call 911** if you have any sense of emergency and there isn’t a faculty or staff person available to immediately assist – **911 Staff** are highly qualified and prepared professionals to make a response decision and to give you advice over the phone.

**QUIGLEY HALL EMERGENCY RESPONSE MEETING AREAS**

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>AREA</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and Nutrition</td>
<td>1</td>
<td>Woody Hall grassed area West of Quigley Main Entry</td>
</tr>
<tr>
<td>Child Development Laboratory</td>
<td>2</td>
<td>North Side Quigley beyond Fenced Area</td>
</tr>
<tr>
<td>Social Work</td>
<td>3</td>
<td>Grassed Area NE of Loading Dock and Auditorium</td>
</tr>
<tr>
<td><strong>School of Architecture</strong></td>
<td>4</td>
<td><strong>Grassed Area East of Quigley Patio and the Covered Walkway</strong></td>
</tr>
<tr>
<td>College of Education - Pre-School</td>
<td>5</td>
<td>Grassed Walkways Area beyond South Entry</td>
</tr>
<tr>
<td>General Classrooms &amp; Auditorium</td>
<td>1, 3, &amp; 4</td>
<td>Please instruct those outside faculty, students, and visitors during an emergency</td>
</tr>
</tbody>
</table>