Course Description
Continuing study of materials and practice in document preparation for construction of multi-floor buildings of a more complex nature, contemporary materials, components, systems, steel framing systems using short- and long-span steel joists, steel pans, pretensioned, post-tensioned, and precast components. Correlation with electrical, mechanical, and structural work is also incorporated.

Prerequisites: Arch 242, Arch 219, and major in Arch. Studies or consent of Arch. Studies coordinator.
Prerequisite to: Architecture 451

Instructor Information

name: otto, adulsak chanyakorn | instructor
office: 402 quigley hall
phone: 618 453 - 4772
office hours: MWF | 9:00 - 12:00
TR | 2:00 - 5:00
e-mail: achanyakom@siu.edu

Textbooks/Supplies


Metric architect’s scale, metric templates, and other drafting equipment as required: Flash Drive or Cloud Drive
Course Objectives
1. Develop an understanding of the construction of fire-resistive structural steel buildings.
2. Become familiar with current building codes and classifications of buildings and structures.
3. Become familiar with the coordination and techniques of contract document production.
4. Execute plans, sections, elevations, details and schedules for a building of steel frame construction.
5. Understand the process of researching building materials, apply the research to development of construction details, and execute those details.
6. Gain a working knowledge of the metric system as it applies to contract document preparation.
7. Gain a working knowledge of the Uniform Drawing System.

Topical Outline
I. Construction Principles, Materials, and Methods (approximately 25%)
   a. Substructure, superstructure, exterior & interior materials, and roofs.
   b. Development of massing, void, rhythm, etc. in architectural projects.
   c. Relationships of architectural to structural systems including use of structural drawings.
   d. Relationships of architectural to mechanical, electrical, and plumbing systems.
   e. Understanding construction sequence, responsibility, and coordination in a multi-story steel framed building.
II. Architectural Design Development & Working Drawings (approximately 75%)
   a. Floor plans, foundation plans, elevations, sections, and referencing using UDS.
   b. Applying the metric system to architectural drawings.
   c. Applying sketching techniques to resolve architectural problems.
   d. Applying advanced uses of AutoCAD or Revit software to complete working drawings.
   e. Working with MasterFormat to research building materials.
   f. Understanding the uses of Contract Documents in architecture.

Expectations of Students
1. Students are expected to actively participate in each session by asking and answering questions, exploring solutions by discussing notes, concepts, and ideas in an informal manner. During lecture and discussion periods, students may not use computers to complete any work. Computers are to be used ONLY during the lab time.
2. Attendance at both the lecture and lab sessions is mandatory during the entire scheduled class time. You are required to notify your instructor of any emergencies or other disruptions to your schedule. Grading for attendance will be as follows:
   - you have two free unexcused absences
   - after the second, each unexcused absence will result in a 5% deduction from your final grade
   - after the fifth, each unexcused absence will result in a 10% deduction from your final grade
   - Three tardies constitute an unexcused absence
   - For this class, a tardy means being late to class or leaving early without permission. An excused absence will require a doctor's note, police report, or other form of official documentation delivered to the instructor promptly
3. During lab, students are expected to use only software appropriate to the goals of the course. Use of Facebook, instant messaging programs, music sharing programs, etc. is NOT appropriate to the goals of the course and is not permitted.

4. Students are expected to research building materials in advance to prepare for the lab problems. Sweet’s catalogs are available in Quigley 005 for this purpose. Internet access is available in Quigley 106 for using Sweet’s On-line. Information gathered is to be used only for appropriate research activities or as described in class. Copying information, except when students have been told to make use of files or other media for class purposes, is considered plagiarism.

5. **Students are expected to submit all projects on time.** Only projects submitted at the specified time and place will be considered for full credit. Projects will be accepted up to one (1) day late, subject to a penalty of twenty (20) grade points. For purposes of computing the late penalty all days of the week are used, including Saturday & Sunday. Projects more than one (1) day late will not be accepted, resulting in the student receiving a zero (0) on that project. You must ask the secretary to initial and date/time stamp any project submitted outside regular class hours, unless given directly to the instructor. The late penalty of twenty points is assessed for one day or a portion thereof.

6. **Students are expected to comply fully with the regulations posted in the computer labs.** Students are also expected to comply fully with the policies of Southern Illinois University Carbondale.

7. **Disable cell phones,** etc. so as not to disrupt class. Due to a history of students "tuning out" with the use of headphones or ear buds, they are no longer permitted while working in lab. Your attention during impromptu questions and clarifications in lab is paramount. Please arrive on time so as not to disrupt class.

8. Students are expected to keep all work areas clean. No food or drink will be permitted at any time in Quigley 106.

9. Students are expected to work in class during the scheduled time, in addition to work completed outside class. **Students who prefer to work outside class will need to learn to work in class on the assigned projects during the scheduled time.** This is in keeping with the practices of a professional office, and will help the student to develop good work habits – habits that are expected in an architect's office, while also available to the Instructor for progress reviews of work.
10. A break is a maximum of ten (10) minutes long. Students are entitled to two (2) breaks during each lab session. The two breaks may be combined into one twenty (20) minute break taken during the lab. Breaks can be taken at any time during the lab session, unless students begin to disappear for extended periods of time. If that occurs, break time will be dictated for all students at a specified time during the lab session.

11. The use of any tobacco product is forbidden in class. This includes tobacco in all of its forms and extends to all rooms and spaces in which any portion of the class is conducted, as well as those spaces necessary to access classroom areas. It also includes any field trip or outside activity that is a part of the class’ activities. Failing to comply with this class policy will be considered a violation of the Student Conduct Code of Southern Illinois University Carbondale, article II, section 4. Students are directed to article III, section B, which states that the punishment shall be: “A failing grade (F) may be assigned for the course in which the violation occurred.”

12. No visitors are permitted in class.

13. Unless work is assigned as a team, each student shall do his or her own work. Please review the Student Conduct Code of Southern Illinois University Carbondale – especially those areas related to University policy regarding acts of academic dishonesty and the definition of plagiarism.

14. Drawings, details, articles, and files or media found on web sites, CD ROMs, other electronic media, or from students who have previously completed all or a portion of this course MAY NOT BE USED FOR ANY PURPOSE IN THIS CLASS. The instructor will provide students with appropriate materials or with references to where materials may be located when it is permissible to access such materials. Using the work of another student for any purpose is NEVER PERMITTED and will always be regarded as an act of academic dishonesty.

**Plagiarism**

Computer software makes it very easy to copy information from one file to another. For this reason, this additional information is provided to help students understand what constitutes plagiarism in ARC 342. In addition to the description given in the Student Conduct Code (http://www.siuc.edu/~policies/policies/conduct.html), these activities are counted as plagiarism:

- Permitting your work to be used by another student even as a review example,
- Granting access to your CAD file,
- Reviewing the work of another person except as provided in class,
- Copying any portion of another file into your ARC 342 solution except for those files provided in class for this purpose, and
- Presenting as your own work any solution that is not created by you.

If there any doubts about whether to use a file, portion of a file, or other information as part of your class project, ASK before doing it! Students who are found to have committed plagiarism in ARC 342 will fail the class.

**Coursework**

Architecture 342 will consist of completing design development research and construction drawings on an assigned multi-story building. The drawings will be representative of typical drawings completed in an architect's office on a project of this size, but the assignments will not form a complete set of drawings for the building. All students must complete class projects using Revit Architecture software.

Original plot media are required of all students with each project. The costs of plots will be borne by the student. Photocopies are not acceptable. Students must also submit an electronic copy of each project in AutoCAD format. The process for providing these files to the instructor using the department network will be reviewed in class.

There will be only two exams, one at midterm and the other during finals week. Both exams will be comprehensive in nature. Exams in this class are difficult. Some of the questions used on the exams are taken directly from past NCARB Architect's Registration Exams. Others are taken from lecture and the lab problem. Because of the nature of the three building technology classes at SIUC, the exams in Architecture 342 build on knowledge from the other two building technology courses.
Grading

BIM Model 20%
Five projects: 50%
Sketch Book 5%
Reading + Digital Booklet 5%
Midterm exam: 10%
Final exam: 10%

TOTAL 100%

*Projects may consist of several submissions as part of one course grade as described in class handouts provided with each project.

Grade Scale: A = 100 - 90  B = 80 - 89  C = 70 - 79  D = 60 - 69  F = 59 & below.

Since the 10-point scale will be used in Architecture 342 this semester, students should expect the grading scale to be APPLIED STRICTLY. For example, 89.999 is a B. Students should also NOT expect bonus points to be available in this class.

Individual grades will not be curved in this class. If a curved grading method is used, it will be applied at the end of the course only. (In all of the past years of teaching this class, grades have never required an adjustment.) The grade of INC will not be assigned unless all the requirements of the University and the Department are met. Those requirements include: 1) an extraordinary circumstance outside the student’s control that interfered with
completion of the course, 2) the student was passing the course at the time the INC grade is issued, and 3) an approved INC grade agreement has been executed between the student and the instructor. Students given an INC may not enroll in any course for which this course is a prerequisite until the INC has been satisfied.

See the attendance requirement under Student Expectations in this document for the attendance policy.

Additional Information
A note on Revisions in Architecture 342: Revisions are not a required element of coursework in this class. Class discussion regarding revisions will take place at midterm. If offered, revisions may be completed as a replacement grade for any lower project grade, but not as a replacement for a zero, the grade that would be received for failing to complete a project at the required time. Revisions must include all of the work discussed in class. The maximum grade that may be earned on each project is based on this formula: $((100 – \text{Original Project Score}) / 2 \times \text{Percentage of Revisions completed on the project}) + \text{Original Project Score}$. More discussion of the topic of revisions will be given in class as appropriate.
The accredited degree program must demonstrate that each graduate possesses the knowledge and skills defined by the criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice. The school must provide evidence that its graduates have satisfied each criterion through required coursework. If credits are granted for courses taken at other institutions or online, evidence must be provided that the courses are comparable to those offered in the accredited degree program.

The criteria encompass two levels of accomplishment:

• 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.

The NAAB establishes performance criteria to help accredited degree programs prepare students for the profession while encouraging educational practices suited to the individual degree program. In addition to assessing whether student performance meets the professional criteria, the visiting team will assess performance in relation to the school's stated curricular goals and content. While the NAAB stipulates the student performance criteria that must be met, it specifies neither the educational format nor the form of student work that may serve as evidence of having met these criteria. Programs are encouraged to develop unique learning and teaching strategies, methods, and materials to satisfy these criteria. The NAAB encourages innovative methods for satisfying the criteria, provided the school has a formal evaluation process for assessing student achievement of these criteria and documenting the results. For the purpose of accreditation, graduating students must demonstrate understanding or ability as defined below in the Student Performance Criteria (SPC) assigned to this course:

A.4 Technical Documentation: Ability to make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.
B.5 Life Safety: Ability to apply the basic principles of life-safety systems with an emphasis on egress.
B.9 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.
B.10 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.
B.11 Building Service Systems: Understanding of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems.
B.12 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.

Source: National Architecture Accrediting Board, 2009 Conditions

QUIGLEY HALL EMERGENCY RESPONSE PROCEDURES: Spring 2014

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 (Frisch, Kidd, 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>
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<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>School of Architecture</td>
<td>4</td>
<td>Grasse Area East of Quigley Patio and the Covered Walkway</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>
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</tbody>
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**Inclement Weather Notes**

On days when there is winter weather, the university may announce closure or late start. If the university closes on a class day, class is cancelled that day. Any items due that day are expected at the next class session. If the university announces late start, for example 10:00 am, all portions of the class before the late start time that day are cancelled but all portions of the class beginning with the late start time will occur. Items due on a late start day will remain due on the same day. Finally, the university may hold day classes but cancel evening classes. Since evening classes are defined as having start times of 5:00 pm or later, lab will end at 5:00 pm on such a day.
Syllabus Attachment
Spring 2015

http://pvcaa.siu.edu/

IMPORTANT DATES *

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<tr>
<th>Event</th>
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<tr>
<td>Semester Begins</td>
<td>01/15/2015</td>
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<tr>
<td>Last day to add a class (without instructor permission)</td>
<td>01/25/2015</td>
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<tr>
<td>Last day to withdraw completely and receive a 100% refund</td>
<td>02/01/2015</td>
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<tr>
<td>Last day to drop a course using SalukiNet</td>
<td>04/05/2015</td>
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<tr>
<td>Last day to file diploma application (for name to appear in Commencement program)</td>
<td>03/13/2015</td>
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<tr>
<td>Final exams</td>
<td>05/11-05/15/2015</td>
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</tbody>
</table>

Note: For outreach, internet, and short course drop/add dates, visit Registrar’s Academic webpage http://registrar.siu.edu/

SPRING SEMESTER HOLIDAYS
Martin Luther King, Jr’s Birthday 01/19/2015
Spring Vacation 03/07-03/13/2015

WITHDRAWAL POLICY – Undergraduate only
Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://registrar.siu.edu/pdfs/ugradcatalog1314.pdf

INCOMPLETE POLICY– Undergraduate only
An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student's grade point average. For more information please visit:
http://registrar.siu.edu/grades/incomplete.html

REPEAT POLICY
An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at http://registrar.siu.edu/pdfs/ugradcatalog1314.pdf

GRADUATE POLICIES
Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit:
http://gradschool.siu.edu/about-usi/grad-catalog/index.html

DISABILITY POLICY
Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.
http://disabilityservices.siu.edu/

PLAGIARISM CODE

MORRIS LIBRARY HOURS
http://www.lib.siu.edu/about

SAFETY AWARENESS FACTS AND EDUCATION
Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://safe.siu.edu

SALUKI CARES
The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-3714, or siucares@siu.edu, http://salukicares.siu.edu/index.html

EMERGENCY PROCEDURES
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the SIU Emergency Response Plan and Building Emergency Response Team (BERT) programs. Please reference the Building Emergency Response Protocols for Syllabus attachments on the following pages. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.

INCLUSIVE EXCELLENCE
SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: http://www.inclusiveexcellence.siu.edu/

LEARNING AND SUPPORT SERVICES
Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:
Tutoring - http://tutoring.siu.edu/
Math Labs http://tutoring.siu.edu/math_tutoring/index.html

WRITING CENTER
The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit: http://write.siu.edu/

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY
Our office’s main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit: http://diversity.siu.edu/

Additional Resources Available:

SALUKINET: https://salukinet.siu.edu/post/home/displaylogin
ADVISEMENT: http://advisement.siu.edu/
SIU ONLINE: http://online.siu.edu/

Spring 2015 R.O’Reamke

arc342 | syllabus 2014