ARC 271: Computers in Architecture

Course Syllabus – SIUC School of Architecture – Fall 2016

Note: This document consists of 6 pages.

INSTRUCTOR INFORMATION
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Email: sfrisch@siu.edu

Office: Quigley 107

COURSE DESCRIPTION
This course serves as an introduction to various electronic media employed within the practice of architecture and interior design. Creative and effective skills in the use of computers in architectural and interior design applications are consistently stressed. Prerequisite: Major in architectural studies or interior design or consent of department chair.
Lecture: 3 credit hours. This course is a prerequisite to ARC 242 – Building Technology I: Wood and ARC/ID 252 – Design II: Order.

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

- Discuss various computer applications in architecture & interior design.
- Demonstrate an intermediate level of skill in the use of AutoCAD to complete architectural & interior design projects, including two- and three-dimensional representation.
- Demonstrate a foundational level of skill in use of a digital imaging manipulation application.
- Demonstrate an introductory level of skill in an e-mail client program.
- Demonstrate an introductory level of skill in computer design programs & an understanding of their application to architectural and interior design practice.
- Discuss the legal and ethical implications & ramifications pertaining to the virtual design office.
- Demonstrate creative usage of course’s computer applications for integration into critical phases of architectural and interior design practice.
- Use the internet to collect information & instruction relevant to architectural and interior design practice.

TOPICAL OUTLINE

<table>
<thead>
<tr>
<th>ETHICS AND COPYRIGHT IN USE OF SOFTWARE APPLICATION(S)</th>
<th>FUNDAMENTALS OF 2D CAD OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASICS TECHNIQUES IN USING BIM APPLICATION(S)</td>
<td>INTRODUCTION TO DIGITAL IMAGE MANIPULATION</td>
</tr>
<tr>
<td>BECOMING SELF-RELIANT &amp; RESOURCEFUL IN THE DIGITAL WORKPLACE</td>
<td>PLOTTING APPLICATIONS AND SHEET SETS</td>
</tr>
<tr>
<td>RESEARCH PROCESSES VIA THE WORLD-WIDE-WEB</td>
<td>DIGITAL LAYOUT &amp; PRESENTATION APPLICATIONS</td>
</tr>
</tbody>
</table>

COURSEWORK
This course will consist of a series of project assignments requiring the student to demonstrate use & understanding of techniques, materials, and software applications presented. All projects will directly lead into the projects that follow. A final semester project will require the use of multiple applications & the exchange of data between such applications.

**ATTENTION:** Maintain ALL returned graded project plots and evaluation sheets! You will be required to re-submit all original plots and critique sheets with the Final Project.

SOFTWARE APPLICATIONS EMPHASIZED

1. AutoCAD (NOT AutoCAD Architecture) - Ver. 2016
3. Photoshop – Ver. CS5.5

EXAMINATIONS
This course has no examinations. Course WILL meet, however, during Finals Week. Refer to FINAL EXAMINATION SCHEDULE section located at bottom of page 4 of this document.

PROJECT DUE-DATE POLICY

- Only projects submitted on or before respective scheduled due dates & times will be considered for full credit. Late projects will be penalized a minimum of 10% for each day the assignment is overdue – weekends included. Penalty time begins immediately following submittal due time. Late (digital) projects may be emailed to the instructor as attachments ASAP following a missed deadline. If a plot is required for that project, it may be submitted during instructor office hours, before a class session, or left with 4th floor receptionist with a request that it be placed in instructor’s faculty mailbox.
- Arriving to class anytime after a stated submittal time deadline will result in a scoring penalty. Any assignment submitted more than 5 days late will be evaluated & critiqued, but will carry no point value toward the final grade.
- Absolutely NO late Final Projects will be accepted.
PERFORMANCE EXPECTATIONS
Students are expected to...

- attend class sessions and actively participate in class discussions;
- complete reading assignments as scheduled;
- use digital course handouts, application “Help” files, & online tutorials as learning resources;
- abide by the regulations governing use of the lab and its equipment as posted in the lab;
- complete their own work; (Be forewarned: plagiarism will result in a grade of F for the assignment/project product. NO discussion ... NO negotiation!)
- follow the university’s student conduct code: http://policies.siu.edu/other_policies/chapter3/conduct.html
- submit all assignments & projects on their designated due dates and at the designated times and locations.

COMPUTER LAB GUIDELINES & RESTRICTIONS
In addition to posted policies governing the use of the computer lab:

- Always turn cell phones OFF before entering the lab.
- Absolutely NO food, gum, or drink is allowed in the lab at any time.
- NO personal audio devices are allowed in the lab during schedule class sessions.
- IMPORTANT Prior to exiting the lab always remember to:
  1. back up personal files from the lab computer onto personal flash drive,
  2. delete personal files from the lab computer,
  3. properly disengage any USB jump drive(s) used,
  4. properly log off the system used, &
  5. clean-up your work area.

NOTE: NO keys to the computer lab will be distributed to students for personal access.
Access to the lab will be limited to posted hours and scheduled class periods.

ACCESSING SYSTEMS IN THE SCHOOL OF ARCHITECTURE COMPUTER LAB (Quigley 106)
User Name: To be announced in class
Password: To be announced in class

ATTENDANCE/ABSENCE POLICY

- Daily attendance will be recorded. At the launch of each class period a sign-in sheet will be distributed. It is the student’s responsibility to confirm attendance by signing-in on the appropriate line on this form. If a student should arrive after this time, it is the sole responsibility of the student to sign-in with the instructor at the conclusion of that class session.
- Attendance is used as a matter of record keeping for verifying a student’s presence. It is not a means for inflicting penalty on a student’s overall semester grade for the course. IF a project is due the session a student is absent, penalty points will be assessed toward the possible point score of that project (refer to section “PROJECT DUE-DATE POLICY” at the base of Page 1); therefore avoid the penalty by getting a classmate to submit an assignment should you anticipate an absence.
- If you should not attend a class session for any reason, be forewarned that you will be solely responsible for the material discussed during that class session & any material(s) included in handouts digitally distributed. The instructor will not repeat demonstrations & lectures you may have missed as a result of being absent from class. You would be wise to establish a class “buddy” who would be willing to share their notes taken during a session you may have missed.

GRADE COMPONENTS WITH PERCENTAGES (subject to change) Total Percentage of Final Grade

| “Phase” Assignments | (5 @ 15% each) | 75% |
| Final Project | (1 @ 25%) | 25% |
| TOTAL | | 100% |
**GRADING SCALE**

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Description</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 - 90</td>
<td>Exceptional / outstanding performance</td>
<td>A</td>
</tr>
<tr>
<td>89.9 - 80</td>
<td>Above average / solid performance</td>
<td>B</td>
</tr>
<tr>
<td>79.9 - 70</td>
<td>Average performance</td>
<td>C</td>
</tr>
<tr>
<td>69.9 - 60</td>
<td>Below average performance but passing</td>
<td>D</td>
</tr>
<tr>
<td>59.9 - below</td>
<td>Poor performance / failing grade</td>
<td>F</td>
</tr>
</tbody>
</table>

**REQUIRED TEXT & SUPPLIES**

- No textbook is required; however, online readings, viewings, and research will be assigned as required course activities.
- Student ID card with maintained minimum $5 balance for expenses incurred as a result of plotting project files.
- Two USB flash drives (2Gg minimum). One for active use and the second for back-up.
- Binding & color print materials for final project.
- A siu.edu email address.
- Software: Refer to listing on the first page of this syllabus document.
- Optional: CadCARD. Do not purchase this item until it is discussed in class.

**ACCESSING MAIL VIA WEBMAIL & HOTMAIL**

**Google mail:**
Webmail allows access to “siu.edu” email accounts through any computer with internet connection and Internet Explorer or Netscape software applications.

**Hotmail:**
Hotmail allows access to “siu.edu” email accounts through any computer with internet connection and Internet Explorer or Netscape software applications. Enter [http://www.msn.com](http://www.msn.com). In the left directory on the homepage of this site, click on Hotmail and follow instructions.

**IMPORTANT**
Always formally sign off from any email application when completed with transmissions.

**USEFUL CONTACTS & HELPFUL RESOURCES:**

Quigley Computer Lab (Quigley 106): 453-1350
SalukiTech services in Morris Library 161A as well as IT Support for student computer problems: 453-5155

Students can also go to the library on the first floor to seek resolve to personal computer support problems. SalukiTech - the walk-in computer support center - is located in Morris Library 161A. For their hours of operation, visit [http://oit.siu.edu/salukitech/contact-us.php](http://oit.siu.edu/salukitech/contact-us.php)

The student is highly encouraged to contact SalukiTech for assistance when experiencing problems with their personal digital hardware components (laptop, desktop, tablet, etc.).

SalukiTech Services offered include:

- General troubleshooting
- Software installs
- Virus removal
- OS installs and upgrades
- Hardware upgrades
- Wireless set up for desktops, laptops, phones & tablets
- Reznet configuration
- Sales of flash drives, hard drives, routers, MS Office and cables

**SPECIAL NEEDS**
If you think you may require an accommodation for a disability, please let your instructor know as early within the semester as possible. 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 your instructor has been aware of your needs, the instructor and student will work with Disability Support Services (DSS) to help determine appropriate academic accommodations. DSS [618.453.5738; http://disabilityservices.siu.edu/](http://disabilityservices.siu.edu/) typically recommends accommodations through a verification form provided to the student. Any information you provide is private and confidential & will be treated as such.

**SIU POLICIES AND CODES**
To access information and documents explaining SIUC policies regarding student conduct, public safety, health, student resources, etc., visit: [http://srr.siu.edu/](http://srr.siu.edu/).
### INSTRUCTIONAL SCHEDULE and PROJECT DUE DATES  
*(Subject to change)*

**Note:** This course meets *twice* weekly, on Mondays and Wednesdays.

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATES</th>
<th>Application/Projects with Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk 1</td>
<td>8/22 &amp; 8/24</td>
<td>COURSE INTRO/AUTOCAD</td>
</tr>
<tr>
<td>Wk 2</td>
<td>8/29 &amp; 8/31</td>
<td>AUTOCAD</td>
</tr>
<tr>
<td>Wk 3</td>
<td>9/05</td>
<td>NO CLASS (Labor Day)</td>
</tr>
<tr>
<td></td>
<td>9/07</td>
<td>AUTOCAD</td>
</tr>
<tr>
<td>Wk 4</td>
<td>9/12 &amp; 9/14</td>
<td>AUTOCAD</td>
</tr>
<tr>
<td></td>
<td>Phase One:</td>
<td>Walls in Plan Projection (AutoCAD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due: Beginning of class, Wed, 9/14/16</td>
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<tr>
<td>Wk 5</td>
<td>9/19 &amp; 9/21</td>
<td>AUTOCAD</td>
</tr>
<tr>
<td>Wk 6</td>
<td>9/26 &amp; 9/28</td>
<td>AUTOCAD</td>
</tr>
<tr>
<td></td>
<td>Phase Two:</td>
<td>Blocks in Plan (AutoCAD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due: Beginning of class, Wed, 9/28/16</td>
</tr>
<tr>
<td>Wk 7</td>
<td>10/03 &amp; 10/05</td>
<td>PHOTOSHOP</td>
</tr>
<tr>
<td>Wk 8</td>
<td>10/10</td>
<td>NO CLASS (Fall Break)</td>
</tr>
<tr>
<td></td>
<td>10/12</td>
<td>REVIT</td>
</tr>
<tr>
<td>Wk 9</td>
<td>10/17 &amp; 10/19</td>
<td>REVIT</td>
</tr>
<tr>
<td></td>
<td>Phase Three:</td>
<td>Dimensioning of Ground Floor Plan (AutoCAD/Revit)</td>
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<td></td>
<td></td>
<td>Due: Beginning of class, Wed, 10/19/16</td>
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<tr>
<td>Wk 10</td>
<td>10/24 &amp; 10/26</td>
<td>REVIT</td>
</tr>
<tr>
<td>Wk 11</td>
<td>10/31 &amp; 11/02</td>
<td>REVIT</td>
</tr>
<tr>
<td>Wk 12</td>
<td>11/07 &amp; 11/09</td>
<td>REVIT</td>
</tr>
<tr>
<td></td>
<td>Phase Four:</td>
<td>Three-dimensional Projection - Pt1 (Revit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due: Beginning of class, Mon, 11/07/16</td>
</tr>
<tr>
<td>Wk 13</td>
<td>11/14 &amp; 11/16</td>
<td>REVIT</td>
</tr>
<tr>
<td>Wk 14</td>
<td>11/21</td>
<td>REVIT</td>
</tr>
<tr>
<td></td>
<td>11/23</td>
<td>NO CLASS (Thanksgiving Break)</td>
</tr>
<tr>
<td>Wk 15</td>
<td>11/28 &amp; 30</td>
<td>REVIT</td>
</tr>
<tr>
<td>Wk 16</td>
<td>12/05 &amp; 12/07</td>
<td>FINAL PROJECT LAB</td>
</tr>
<tr>
<td></td>
<td>Phase Five:</td>
<td>Three-dimensional Projection - Pt2 (Revit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due: End of class, Mon, 12/05/16</td>
</tr>
<tr>
<td></td>
<td>Final Project:</td>
<td>Digital &amp; Sheet Presentations (All Course Programs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due: No later than 1:00 PM SHARP, Fri, 12/09/16</td>
</tr>
</tbody>
</table>

For a complete review of the **SIUC 2016-2017 Academic Calendar**, visit:  
[http://registrar.siu.edu/calendars/academic1617.php](http://registrar.siu.edu/calendars/academic1617.php)

### FINAL EXAMINATION SCHEDULE:

**Note:** This course does not have a final examination. **However,** each section has been designated to meet during Finals Week for a course *wrap-up session* according to the following university sanctioned schedule:

- **Section 2** – Date: Wed. 12/14/16  
  Time: 10:15am-12:15pm
- **Section 3** – Date: Fri. 12/16/16  
  Time: 12:30-2:30pm
- **Section 4** – Date: Fri. 12/16/16  
  Time: 2:45-4:45pm

QUIGLEY HALL EMERGENCY RESPONSE PROCEDURES

**Emergency Procedures:** Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Detailed information regarding the university’s safety and emergency procedures can be found at [http://emergency.siu.edu/](http://emergency.siu.edu/). Through this site you may also learn how to register to receive campus “emergency alerts” via email and/or text messages ([http://emergency.siu.edu/about-alerts.html](http://emergency.siu.edu/about-alerts.html)).

You are further advised to become familiar with the “SIUC Emergency Checklist” available at [http://emergency.siu.edu/check/emergency_response_checklist.pdf](http://emergency.siu.edu/check/emergency_response_checklist.pdf). It will educate how to respond to each of the following types of emergency situations: tornado, fire, earthquake, hazardous spills/chemicals, active shooter, bomb threat, radiation, and suspicious package.

If an evacuation of Quigley Hall is required during an emergency (such as a fire), everyone (ALL School of Architecture students, faculty, and staff) should exit the building in an orderly manner & gather ASAP in the grassed area east of the Quigley Courtyard and covered walkway. In the case of a tornado threat, all persons are to go directly and immediately to the basement of the building. 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 remain with your instructor during an evacuation or sheltering emergency.

### 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 &amp; Auditorium</td>
</tr>
<tr>
<td>School of Architecture</td>
<td>4</td>
<td>Grassed Area East of Quigley Patio &amp; 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></td>
</tr>
</tbody>
</table>

Lastly, 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 response decisions and provide you advice over the phone.

**ACADEMIC ACCREDITATION CRITERION MET BY ARC271** for Architectural Studies & Interior Design students

**COUNCIL FOR INTERIOR DESIGN ACCREDITATION (CIDA)**

**PROFESSIONAL STANDARDS 2011: STUDENT LEARNING EXPECTATIONS**

There are thirteen standards that apply to Student Learning Expectations. In order to be accredited, an interior design program must comply with all these standards as well as three additional standards relating to program mission, goals, curriculum, and administration.

Student learning expectations are identified by three levels of learning:

- **Awareness** - familiarity with specified data and information that is demonstrated in student work.
- **Understand/Understanding** - a thorough comprehension of concepts and their interrelationships.
- **Apply/Ability/Able** - competent entry-level skills that must be demonstrated in completed student work.

Student work is broadly defined to include all tangible work produced by students such as projects, research papers, completed exams, class exercises, recorded presentations, etc.

This course demonstrates student performance that meets the following CIDA accreditation criteria either in whole or in part:

3.a. **Students understand that social and behavioral norms may vary from their own and are relevant to making appropriate design decisions.**

4.b. **Students are able to gather, evaluate, and apply appropriate and necessary information and research findings to solve the problem (pre-design investigation)**

4.c. **Students are able to synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements.**

6.a. **Students apply a variety of communication techniques and technologies appropriate to a range of purposes and audiences.**

6.c. **Students are able to use sketches as a design and communication tool (ideation drawings).**

6.d. **Students are able to produce competent presentation drawings across a range of appropriate media.**

9.a. **Students effectively apply the elements and principles of design to two-dimensional design solutions.**
NATIONAL ARCHITECTURE ACCREDITING BOARD (NAAB)

PART TWO (II): SECTION 1-STUDENT PERFORMANCE -- EDUCATIONAL REALMS & STUDENT PERFORMANCE CRITERIA

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, compares, 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. 3. Visual Communication Skills: Ability to use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at each stage of the programming and design process.**

*Source: National Architecture Accrediting Board, 2009 Conditions*