

## CLASS SYLLABUS

University of Southern California  
School of Architecture

### A. GENERAL

Course: **ARCH-611: ADVANCED BUILDING SYSTEMS  
INTEGRATION**

Semester Offered: SPRING 2017, (4 units)

Professors: Doris Sung ([doris@dosu-arch](mailto:doris@dosu-arch))  
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Office Hours: By appointment

Section: 11500D

Day and Time: **Monday** from 6:30pm to 9:50pm

Location: HAR-101

### B. OBJECTIVE

During this course, students will learn the following, based on the NAAB requirements:  
(Regarding NAAB accreditation Read "Statement Regarding Accreditation" in Section-Q below.)

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.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.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.

### C. PURPOSE

1. After this course, students are expected to be able to contribute in the design and development of architectural and structural systems in an Architectural / Engineering firm, or in a Design and Build firm.

### D. COURSE REQUIREMENTS

1. Students are expected to have completed the required prerequisites (ARCH-411 and ARCH-511) for the course.
2. The students will be required to attend all lectures, complete all reading assignments, quizzes, drawings relating to each weekly topic, architectural models, and project. See attached course outline for more details.
3. Students will be treated as beginning architects/engineers working for a design office and are expected to fully participate in classroom discussions, and to communicate with each

other regarding the subject matter on daily bases, as it would be required in a design office.

4. ATTENDANCE: Read below carefully Section-N, "Attendance" that may significantly influence your grade.
5. Electronic communication devices must be turned off or in vibration mode during class.
6. Examination behavior: Any use of external assistance during an examination or quiz, or attempt to benefit from work of another student, shall be considered academically dishonest. If clear violation has occurred, the instructor may disqualify the student's work as unacceptable and assign a failing mark for the assignment, quiz, or examination and such incident will be reported to the Student Service Office. See also "Statement on Academic Integrity" in Section-Q below.

### **E. COURSE OUTLINE**

1. The course outline is attached to this syllabus.
2. The course outline contains schedule of all assignments and events for this class.
3. Please note that the course outline will be revised during the semester to accommodate possible scheduling conflicts for the assignments, projects, or required reading.
4. The footer on the syllabus and the course outline shows the revision date. Make sure always to refer to the latest edition of the syllabus and the course outline that will be distributed in class, or sent by e-mail in timely fashion.

### **F. READING ASSIGNMENTS**

1. Reading assignments are listed in the attached course outline based on the text books listed in the bibliography below.
2. It is imperative to keep up with the reading to be able to participate in classroom discussions and complete all the required class assignments and quizzes.

### **G. ASSIGNMENTS (25% of the final grade)**

1. Handouts outlining requirements for each assignment will be distributed during the semester according to the attached course outline.
2. The assignments are meant to provide insight into the design, detailing, construction process, and materials methodology, etc., according to the objective outlined above.
3. Late assignments will not receive a full credit.
4. See Assignment Outlines for more details.

### **H. QUIZZES (15% of the final grade)**

1. Quizzes will be given throughout the semester according to the attached course outline.
2. Each quiz will typically consist of about 5 questions that would be based on the reading assignments and the previous lectures.
3. Quizzes cannot be made up at an earlier date or a later date.

### **I. FINAL EXAM (25% of the final grade)**

1. The final exam will be multiple-choice, graded on a curve.
2. The exam will be individual effort. Promptness and attendance is mandatory.
3. Meeting time and place to be confirmed.

### **J. PROJECT (25% of the final grade)**

1. Handout outlining requirements for the project will be distributed during the semester.
2. See Project Outline for more details.

#### **K. CLASS PARTICIPATION / PORTFOLIO REVIEW (10% of the final grade)**

1. Participation is an important part of this course. Students are expected to work in groups, participate in discussions, pose critical questions at lectures, and be proactive at desk crits and reviews. A portion of the final grades evaluates participation.
2. Each student must prepare and submit portfolio, neatly organized in a three hole binder. The portfolio must include student's complete class work for the semester.
3. In addition, the students will be required to submit the electronic scans of the same portfolio in .PDF format on a CD or DVD, depending on the electronic file size.
4. If any portion of the student's class work will be missing at the end of the semester, it will result in a lower final grade, regardless of the fact that it has being previously graded, or not. Hence, it must be the student's responsibility to maintain carefully hard copies and electronic copies of their complete class work for the entire semester. Note: Students must constantly backup their electronic class work throughout the semester to prevent any unforeseen electronic data loss.
5. The final grade will be based on the combined review of all class work including the portfolio submitted at the end of the semester.

#### **L. PROTOCOL FOR ANY ELECTRONIC FILE SUBMITTAL**

1. All electronic files shall be burned on CD for portfolio submittal.
2. Use the following protocol for naming all .PDF files for your submittals:
  - a) Assignments: **A- #\_ARCH611\_RosterName.pdf**
  - b) Project: **Project\_ARCH611\_RosterName.pdf**

#### **M. GRADING**

Grade breakdown by percentage of total points:

A	90 - 100%	Work exceeds expectation, always attends class.
B	80 - 89%	Very good work, almost always attends class.
C	70 - 79%	Good work, good attendance.
D	60 - 69%	Late, incomplete, or sloppy work, infrequent attendance.
F	59% or less	Missing or unoriginal work, poor attendance.

#### **N. ATTENDANCE**

1. A maximum of one absence (excused or unexcused) is permitted, adhering to the University and School of Architecture policies for one day per week courses.
2. After one absence, students will be issued a Letter of Unsatisfactory Progress stating the potential negative impact on their final course grade. Additional absences subsequent to the letter may require the student to consider the option of withdrawing from the course to avoid the possibility of obtaining a failing grade.
3. At a minimum, any students missing a class session will be required to make up the missed session by fulfilling an assignment provided by the faculty consistent with the content and intentions of the course.
4. Students need to inform the faculty via e-mail of any anticipated absence as soon as it is determined that the student will not be able to attend and explain in writing the nature of the conflict that prevented full participation in the class.

5. Students that are late for class or absent for a part of the class period are liable for a reduced grade or failing grade depending on the extent of the absence and its impact on performance in the class.
6. 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 attendance or inability to participate fully in course activity be discussed with your instructor at the beginning of the term.

## **O. BIBLIOGRAPHY**

### **Required Texts:**

1. Architectural Detailing: Function, Constructability, Aesthetics, 3rd Edition, 2016, Edward Allen, Patrick Rand, Published by John Wiley & Sons, Inc.
2. The Architect's Studio Companion: Rules of Thumb for Preliminary Design, 5th Edition, 2011, Edward Allen, Joseph Iano, Published by John Wiley & Sons, Inc.
3. Integrated Buildings: The Systems Basis of Architecture, 2002, Leonard R. Bachman, Published by John Wiley & Sons, Inc.

### **Recommended Texts:**

1. Fundamentals of Building Construction Materials & Methods, 6th Edition, 2014, Edward Allen and Joseph Iano, Published by John Wiley & Sons, Inc.
2. Mechanical and Electrical Systems in Buildings, 5th Edition, 2014, Richard R. Janis and William K.Y. Tao, Published by Pearson Prentice Hall
3. Building Construction Illustrated, 5th Edition, 2014, Francis D. K. Ching, Published by John Wiley & Sons, Inc.
4. Architectural Graphic Standards - Student Edition, 11th Edition, 2008, Edited by Bruce Bassler, Published by John Wiley & Sons, Inc.

### **P. SUGGESTED COMPUTER SOFTWARE (But not required):**

1. AutoCAD, Revit, or similar software.
2. SketchUp or similar software.
3. Adobe Creative Suite (Photoshop, Illustrator, In-Design, Acrobat, etc.) or similar software.

## **Q. ADDITIONAL INFORMATION**

### **Statement on Academic Conduct**

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please

familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>.

This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage [sarc@usc.edu](mailto:sarc@usc.edu) describes reporting options and other resources.

### **Statement on Support Systems**

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* [http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html) provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

### **Statement Regarding Accreditation:**

The USC School of Architecture's five year BARCH degree and the two year M.ARCH degree are accredited professional architectural degree programs. 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/2009\\_Conditions.aspx](http://www.naab.org/accreditation/2009_Conditions.aspx).

### **The 2010 Imperative Statement:**

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