

USC School of Architecture

Architecture 526: Professional Practice *(last updated 8/18/17)*

Fall Semester 2017

Units: 3

Wednesday lab 1: 9:00 am – 10:20 am, WPH B36

Wednesday lab 2: 10:20 am – 11:50 pm, WPH B36

Friday lab 3: noon – 1:20 pm, WPH B36

Friday lecture: 10 am – 11:50 am, HAR 101

Instructor: Michael Hricak, FAIA

Office: TBA

Office Hours: send email for appointment

Contact Info: hricak@usc.edu

Class Assistant: Santhosh Kumar Seeralaselvan

Office: Watt Hall, third floor, east side studio

Office Hours: TBA

Contact Info: seeralas@usc.edu

Instructor: Karen Kensek

Office: Harris 208

Office Hours: send email for appointment

Contact Info: kensek@usc.edu

Class Assistant: Zhan Yang

Office: Watt Hall, third floor, east side studio

Office Hours: TBA

Contact Info: zhanyang@usc.edu

Class Assistant: TBA

Office: TBA

Office Hours: TBA

Contact Info: TBA

IT Help: Enrique Barajas, School of Architecture

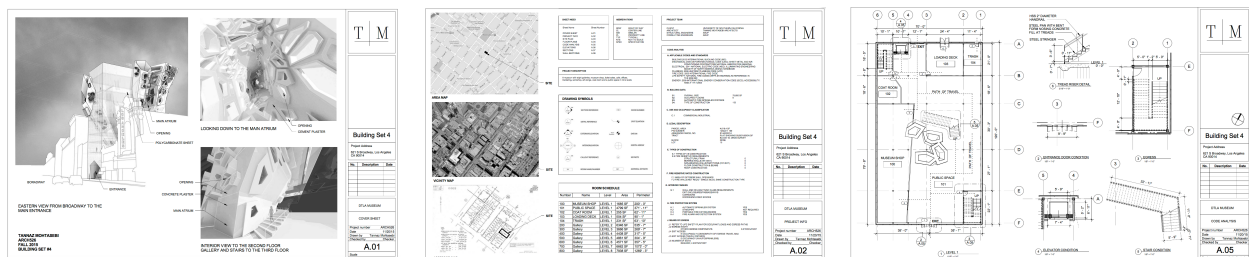
Contact Info: ebarajas@usc.edu; 213-740-3602

Prerequisite(s): Arch 500a or 605b

Recommended Preparation: ability to create a 3D virtual building

Course Notes: Please note that you are required to attend all the lectures and labs and show up on time.

Software Required: Download Autodesk Revit 2018 from <http://students.autodesk.com>.



Tannaz Mohtasebi (Fall 2015 – partial comprehensive building drawing set)

Course Description and Learning Objectives

The goal of this course is to provide an opportunity to demonstrate the student's ability to comprehensively describe an architectural project by making a series of informed design decisions across scales and disciplines and memorializing these choices in an integrated collection of drawings, documents, and data.

The course explores the manner by which architects create and distribute information regarding built form and design intent using technical graphic information and other means of documentation. The student will prepare those basic documents necessary for the comprehension of the design intent by other design, engineering, legal, financial, and construction professionals.

The course includes an introduction to the basic laws and regulations that affect the practice of architecture as they relate to both design and the creation of construction related documents including the role of those authorities having jurisdiction (AHJ) over the project; the review, approval, and permit process; the role of peripheral regulatory agencies; and planning, zoning, and building codes.

The "anatomy" of standard construction information is presented through an overall review of project documentation, detailing, specifications, document formats, and project organization. The course includes a lab portion to demonstrate comprehensive, fully coordinated, and dynamic construction documents via several platforms of building information modeling (BIM) and other pertinent software. Other topics in the class include the role of collaboration, legal responsibilities, building materials and assemblies, financial considerations, project leadership, the role of ethics in making design decisions and in professional behavior, and project and practice management.

To effectively communicate their intentions architects must understand the various stakeholders' roles, concerns, agendas and responsibilities. These include the client(s), the users and occupants, project consultants (e.g. structural, MEP, energy, etc.), contractors, sub-contractors, fabricators, suppliers, government officials (e.g. inspections and code compliance), attorneys, and other professionals involved in the process. Communication thus becomes not a static list of one time deliverables, but an on-going process – requiring consistent information management and coordination by the architect.

Required Readings and Supplementary Materials

Specific due dates for the readings are listed on the syllabus. There will be in-class quizzes on the readings and lectures. You may also be asked about general software concepts, but not specific software commands on quizzes.

Required Readings

Hricak, Michael (editor), American Institute of Architects, **The Architecture Student's Handbook of Professional Practice, ASHPP**, Fourteenth Edition, John Wiley and Sons, copyright 2009.

Kensek, Karen, **Building Information Modeling**, Routledge, copyright 2014.

Effective Use of the IBC/CBC, pages vii through xvi.

http://www.ecodes.biz/ecodes_support/free_resources/2013California/13Building/PDFs/Effective%20Use%20of%20the%20IBC_CBC.pdf

OR

<http://www.bsc.ca.gov/codes.aspx>, Choose....2013 Triennial Edition, Part 2 California Building Code, Building Volume 1 "Effective Use of the IBC/CBC"

Optional Readings

AIA Draft Documents for Review and Comment: E203™–2012, Building Information Modeling and Digital Data Exhibit; G201™–2012 Project Digital Data Protocol Form; and G202™–2012 Building Information Modeling Protocol Form.

assorted readings of Blackboard: aiab095712 - AIA BIM contract documents.pdf, AIACC_IPD.pdf, bimforum.org-lod (folder), software skills needed.pdf

Brand, Stewart, **How Buildings Learn, What Happens After They're Built**, Penguin Books, copyright 1994.

Ching, Francis D. K. and Winkel, Steven R., **Building Codes Illustrated: A Guide to Understanding the 2012 International Building Code**

Nordenson, G., **Reading Structures: 39 Projects and Built Works**, Lars Muller Publishers, Copyright 2016

Lewis, P.; Tsurumaki, M.; Lewis, D.J. **Manual of Section**, Princeton Architectural Press, Copyright 2016

NCARB Monographs - Heating and Cooling Design for Buildings

Wakita, Bakhoun, and Linde, **The Professional Practice of Architectural Working Drawings 4th edition**

Description and Assessment of Assignments

LATE WORK WILL NOT BE ACCEPTED; TURN IN WHAT YOU HAVE ON-TIME. It is critical that you finish by the deadlines that have been set. Feel free to get ahead in the work for the class, just not behind. Each assignment builds on the next. Sometimes you will be turning in a paper based assignment AND a file on Blackboard. Students are strongly encouraged to come by with work in progress for suggestions before the work is due and come by after grading to learn how they could improve in the future. Please read the assignments carefully – most are done as individuals, but the first one is done as a team assignment.

Assignments vary – check the individual assignment descriptions as to what you turn in and whether or not you additionally turn it in on Blackboard. Assignments are due **before the beginning** of class. There are **no make-ups** on assignments or quizzes.

There are five types of assignments that you will be graded on BIM, Design Criteria (DC), Comprehensive Building Drawing Set (CBDS), Quizzes, and The One Sheet (TOS). They each have multiple parts with different deadlines and requirements. You will be given detailed directions on what to turn in. **Check the syllabus for the due dates.**

Note that the points add up to 100, a perfect score in the class, an A+. Approximately 95 is an A, 90 an A-, 85 a B, 80 a B-. You should be able to know how you are doing in the class by adding up your points and dividing by the possible number of points to date.

	Percentage of Grade	Assignments	Number of points
BIM – Revit (varies)	15%	BIM 1: introduction to Revit (teams of two)	5
		BIM 2: house workshop (individual)	5
		BIM 3: structure and mechanical integration (teams of 2)	5
Design Criteria Presentations (teams of 6)	25%	DC 1: draft	10
		DC 2: final (as these are group presentations, there are varying due dates depending on the topic you were assigned)	15
Comprehensive Building Drawing Set (teams of 3)	30%	CBDS 1: draft (this will be reviewed during class time)	15
		CBDS 2: final	15
Quizzes (individual)	10%	There will be several pop-quizzes during class. As with all the assignments, there are no make-ups for these. Come to lecture and lab. Read the required readings. Review previous class notes. Ask questions about things that you do not understand. Bring your books to class.	10
The One Sheet Final Project/Exam is based on your design from Arch 605b (individual)	20%	TOS 1: analyze building	2.5
		TOS 2: value and expense	2.5
		TOS 3: draft (this will be reviewed during class time)	5
		TOS 4: final	10

Course Schedule

	Labs Lab 1: Wednesday, 9 am – 10:20 am Lab 2: Wednesday, 10:30 am – noon Lab 3: Friday, noon – 1:20 pm	Friday Lecture 10 am – 11:50 am	Required Readings (due at beginning of Friday lecture)
Week 1 Aug. 23, 25	Introduction to Revit. Linking files. Inserting scanned images. Viewing: graphic over-ride, perspectives, hidden components, scale, detail, crop, view range, etc. Creating: plan, section, elevation, axon, perspective, section box, sheet, dimensions, annotations Underlays: AutoCAD and image. Printing.	Vitruvius plays Moneyball: <i>Design, Data Analytics and Decision Making</i>	Routledge: introduction Chapter 6 ASHPP Pgs. 391-422 Part 1
Week 2 Aug. 30, Sept. 1	BIM 1 DUE Introduction to Revit Architecture	TOS 1 DUE What Have You Done? <i>Making Sense of Design Decisions</i>	Routledge: Chapter 7 ASHPP Pgs. 391-422 Part 2
Week 3 Sept. 6, 8	Introduction to Revit Families type, instance system, loadable, in-place system: walls, roofs, floors	TOS 2 DUE Measurement, Meaning & Materials: <i>Standards and Deviations</i>	Routledge: Chapter 8
Week 4 Sept. 13, 15	BIM 2 DUE Introduction to Revit Structure	DC 1 DUE THE ONE SHEET: <i>Information Design & Design Information</i>	Routledge: Chapter 9 ASHPP Pgs. 51-64
Week 5 Sept. 20, 22	Introduction to Revit Mechanical	DC 2 DUE: Regulations/Accessibility <i>Lecture & Team Presentations</i>	Routledge: Chapter 1 ASHPP Pgs. 64-73
Week 6 Sept. 27, 29	BIM 3 DUE Detailing.	DC 2 DUE: Environmental Systems <i>Lecture & Team Presentations</i>	Routledge: Chapter 2 ASHPP Pgs. 330-341
Week 7 Oct. 4, 6	Families: loadable	DC 2 DUE: Structural Systems <i>Lecture & Team Presentations</i>	Routledge: Chapter 3 ASHPP Pgs. 341-355 ASHPP Pgs. 356-370
Week 8 Oct. 11, 13	Families: parametric	DC 2 DUE: Sustainability <i>Lecture & Team Presentations</i>	Routledge: Chapter 4 ASHPP Pgs. 422-433

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/>.

Cheating: Any evidence of cheating will result in the offender(s) being dismissed from this course.

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/departments/departments-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 describes reporting options and other resources.

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 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.

Religious Holidays

The University of Southern California 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 lack of attendance or inability to participate fully in the course activity be fully aired at the start of the term. As a general principle students should be excused from class for these events if properly documented and if provisions can be made to accommodate the absence and make up the lost work. Constraints on participation that conflict with adequate participation in the course and cannot be resolved to the satisfaction of the faculty and the student need to be identified prior to the drop/add date for registration. After the drop/add date the University and the School of Architecture shall be the sole arbiter of what constitutes appropriate attendance and participation in a given course.

Please contact **Karen Kensek at kensek@usc.edu by the end of the second week of class** if you anticipate conflicts with religious holidays including missing lectures, inability to finish homework assignments on-time, or other items that may hinder your work in this class.

Accreditation Statement

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.

The Master of Landscape Architecture degree program (for USC’s +3 students with no prior design education, and our +2 for students admitted with advanced standing) is currently in "Candidacy Status" for accreditation by the Landscape Architecture Accreditation Board. All students can access and review the LAAB accreditation standards/process at <http://www.asla.org/Education.aspx>.