

ARC 328F/381F/LAR392F/ARI392F: VISUAL COMMUNICATIONS

Digital Drawing and Fabrication

University of Texas at Austin School of Architecture

Spring 2019

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Feathered Pavilion

Arman Hadilou, *Digital Drawing and Fabrication 2012*

DESCRIPTION

This course will focus on advanced visual communication methodologies necessary for architectural generation, translation, and output. Students will gain comprehension of 2D and 3D digital design drawing, modeling, and fabrication skills using various pictorial systems such as orthographic, para-line, diagram, and projection views. Generation will be a sequential development that moves through scales of representation via digital modeling, visual programming and CAD/CAM procedures. Attention will also be given to color theory and overall compositional values.

The class will progress through lectures, video tutorials, presentations, and pinup discussions. Topics and assignments will be introduced and developed within class time as a compressive framework through which to explore visual design workflows and output scenarios. The coursework will be treated as an instrument of individual investigation and experimentation. Interim submissions and a final portfolio submission will be the ultimate consideration for grading.

WORK

Class will be held on Friday from 9-11am and Tuesday from 5-6pm in WMB 5.114 (5th floor computer lab) unless otherwise noted. Assignments will be due at the beginning of class or as assigned.

STUDENT LEARNING OBJECTIVES

The learning objectives will be evaluated through the graphic systems and procedures as listed above:

- General introduction to the theoretical underpinnings of current digital technology.
- Historical reference for the factors contributing to the use of technology for visual communication in architecture
- Role of CAD/CAM technology in the present architecture profession.
- Preliminary introduction and translation of complex 3D geometric modeling to modeling techniques.
- General introduction to the techniques of 2D and 3D CAM fabrication.
- Hands-on introduction to the use of the laser cutter, CNC, Kuka Robot and 3D printer.

SCHEDULE

Week	Topic	Assn	%
wk 1-3	Diagram	Figure Ground	15
wk 4-7	Orthographic	Shade/Shadow+Poche'	20
wk 8- 12	Form	Generation & Assembly	30
wk 9	s p r i n g b r e a k		
wk 13-16	Projection	insideOUT	25
wk 17	Portfolio	final submission	10

REFERENCES

(A web site on **Canvas** provides all required assignments, reference materials and copies of the weekly lectures.)

http://issuu.com/ani.arzumanyan/docs/the_new_structuralism_design_engineering_and_arc.

Cook, Peter. Drawing: the Emotive Force of Architecture, "The Drawing Redefined," London: John Wiley & Sons Ltd., 2008, pp. 195-202.

Tufte, Edward. Envisioning Information. "Color and Information". New York: Graphics Press, May 1990, pp. 81-94.

Borden, Gail. Process: Material and Representation in Architecture. New York: Routledge Press, 2012.

Rowan, Jonah. "In Praise of Orthographic Projection" Fresh Punches: Experimental Architecture Exhibition Catalogue, eds. Nathan Hume, Abigail Coover Hume, Paul Ruppert, CreateSpace Independent Publishing Platform, 2013

<https://thinkparametric.com/library>
<http://drawingarchitecture.tumblr.com>
http://vi.sualize.us/tag/architecture_drawing/
<https://dwgmodels.com/>
<http://lynda.com>

HARDWARE/SOFTWARE

It is required that you have a laptop able to run Autodesk Revit Architecture, Rhino and Adobe Suite platform. *You may download and install Autodesk products from: <http://students.autodesk.com/>

Required Software:

Adobe Suite:

- Photoshop CS3
- Illustrator CS3
- InDesign CS3
- Acrobat CS3

Autodesk:*

- AutoCAD
- Revit 2019
- Dynamo

Other:

- Rhino
- Grasshopper
- Enscape plugin

EVALUATION

Establishing grades for projects of a creative nature is a more complex matter than grading in other academic areas. While each project contains certain quantifiable elements by which it may be evaluated, a significant portion of each grade is derived from a broader, more subjective set of issues.

Each assignment will be weighted based on its duration and complexity. Your work will be evaluated on its rigor and evolution over the semester. Although grades will be distributed at the completion of interim assignments (90%) and final (10%) portfolio submissions. The instructor and teaching assistant are available for any questions or concerns throughout the semester.

GRADE DESCRIPTIONS

A/A- : excellent

The work submitted surpasses expectations in terms of inventiveness, appropriateness, verbal and visual ability, craft, and personal development. Student pursues ideas and techniques above and beyond what is discussed in class.

B+/B/B- : above average

The work submitted is thorough, diligently pursued, and successfully executed. Student pursues ideas and techniques presented in class and puts in effort to resolve assignment. The work demonstrates potential for excellence and is complete.

C+/C/C- : average

The work submitted meets the minimum requirements. Suggestions made in class are not pursued with dedication and/or the work submitted is incomplete. (Note: C- does not meet the minimum grade to be counted toward the student's degree.)

D+/D/D- : below average

The work submitted does not address basic skills including graphic skills, verbal clarity or presentation is not level appropriate. Student does not demonstrate the required conceptual and technical rigor expected and/or the work submitted is incomplete.

F: failure

Minimum objectives are not met. Performance is not acceptable.

X: excused incomplete

Given for reasons of illness or family emergency. An incomplete is assigned after consultation with the Associate Deans' offices. Coursework must be completed prior to the beginning of the following semester.

ATTENDANCE

Attendance is mandatory. Participation is expected. Students with three (3) unexcused absences may be dropped from the course without further notice. The minimum penalty for more than three unexcused absences is a full letter drop in your grade for the course. Please contact the instructor prior to class (briscoed@mail.utexas.edu) if you will be late or miss class.

Religious holy days sometimes conflict with class and examination schedules. If you miss an examination, work assignment, or other project due to the observance of a religious holy day you will be given an opportunity to complete the work missed within a reasonable time after the absence. Please notify each of your instructors as far in advance as possible prior to the classes scheduled on dates you will be absent to observe a religious holy day.

STUDENTS WITH DISABILITIES

Students with disabilities who require special accommodations need to get a letter that documents the disability from the Services for Students with Disabilities area of the Office of the Dean of Students (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). This letter should be presented to the instructor in each course at the beginning of the semester and accommodations needed should be discussed at that time. Five business days before an exam the student should remind the instructor of any testing accommodations that will be needed.