

ARCH 207 Architectural Design I

Instructor

Mark J. Clayton, PhD

Office: Pavilion 110

Phone: 979 845-2300

Email: mark-clayton@tamu.edu

<http://people.tamu.edu/~mark-clayton/>

Office hours: MWF 10:30 am to 11:30 am; T 9:30 am to 10:30 am; Th 1:30 pm to 3:00 pm; or by appointment.

Time and location

Spring 2010

MW 3:00 pm to 3:50 pm in ARCA 323 or ARCC105

MW 4:10 pm to 5:50 pm in ARCC 304CA

F 3:00 pm to 4:40 pm ARCC 304CA

Catalog Description

207. Architecture Design I. (1-6). Credit 4.

Technology as medium for design planning and communication; impact and influence of technology on architectural design process; investigation of computing theories, systems, methods and current and future trends through creative thinking and innovation design, problem solving and creation with the use of digital media.

*Prerequisites: ENDS 105, 106, 115, 116.**

Learning Objectives

ARCH 207 is the last studio that you will take before applying to upper division. It is a new course that has never before been taught, and as such is experimental. It is based on the conviction that the problems facing us as architects and inhabitants of architecture in the 21st century demand new methods, techniques, tools and attitudes. It is also based on the conviction that 20th century methods are inadequate and in fact proven to be flawed, and that computer technology is one of the few “game changers” that could enable us to meet the challenges that face us. This course will give you tools and skills that you will use for the rest of your academic and professional career to leverage your ability as a designer, manager, and human being.

The format of the course is unusual. Parts of it will be like studios that are characteristic of design education; you are given design challenges to solve and you work on them through drawing, modeling, and writing. Other parts of the class are like a lecture: you sit in a group, largely listening and taking notes so that you can prepare for exams. The class will also have parts that are like a seminar: you will participate in a general discussion in which you listen to

insights and opinions, share yours, and justify your position. The course will be intense. I expect you to work on the activities of this course between 12 and 20 hours per week.

Five broad subjects are addressed in this course:

1. Architectural design quality.
2. Information technology applications in architecture.
3. Construction materials and methods.
4. High performance architecture.
5. Design methods.

The learning objectives for the course are connected to particular projects and activities:

Charrette

1. Demonstrate ability to think and act like a designer to produce a clever and appropriate solution to a challenging architectural problem in a short period of time.
2. Demonstrate skill in conceiving and presenting ideas.

Project 1: Passenger Depot

Learn about the following topics and demonstrate an ability to apply them in generating a solution to a design problem.

1. Concepts and application of BIM and Revit.
2. Principles of search-based design.
3. Principles of evidence-based design.
4. Concepts in parametric design.
5. Principles of collaborative design.
6. Principles of convincing architectural presentations.
7. Time constraints and activity scheduling.
8. Cost issues in design.
9. Curvilinear form making.
10. Examples of guidelines and building codes.
11. Energy conservation principles.
12. Water conservation principles.
13. Lighting and rendering.
14. Historical factors.
15. Construction materials.
16. Architectural aesthetics.
17. Behavior, activities and practices of creative design.
18. Techniques of documentation of a building for construction.

Project 2: House in College Station

In the second project, additional topics are added:

1. Principles of modern design in contrast to classical design.
2. Expressive potential of architectural design.
3. Climate responsive design principles as they apply to houses.
4. Principles of excellence in home architecture.
5. Innovations in home architecture.

6. Expressive qualities of architecture

Books

Learn about the following topics and demonstrate an ability to apply them in generating a solution to a design problem.

1. Basic skills in graphic design and graphic communication.
2. Collaborative skills that enable you to work together to produce something better than an individual can do.

Timesheets and blogs

1. Cultivate discipline in design work processes.
2. Cultivate a reflective attitude and approach to design.

Textbooks and Materials

There will be readings provided occasionally. Suggested textbooks include:

Form, Space and Order, by Francis Ching

Building Construction Illustrated, by Francis Ching

The Modern Language of Architecture, by Bruno Zevi

You need tools to help you design. First, you need a drawing kit:

- Drawing board, 30" x 40" (more or less). This should be covered with a good drawing surface. You should have a portable board that you can keep for the rest of your studies and move wherever you work. I suggest getting a parallel rule mounted on the board, although a T-square is adequate.
- Pencils. I prefer mechanical pencils of various thicknesses, such as .05, .07, and .09. I prefer an average to soft lead, such as H, HB, or B.
- Erasers. Well, duh.
- Tracing paper. One 12" roll of yellow trace should be adequate. Or buy a 24" roll and cut it into two.
- Drafting tape or drafting dots. These are used to tape your paper to your drawing surface.
- Triangles. 30-60-90 10" fixed triangle, 10" adjustable triangle. Small triangles, such as 3" are also frequently convenient.
- Architect's scale. 12" triangular cross section for 1/16", 1/8", 1/4", 3/16", 1/2" ... 3" scales. A 6" flat scale is nice too.
- Pens. I suggest a good, black ink roller gel, or a good fountain pen. Shaeffer makes a good cheap fountain pen with disposable cartridges.

- Colored drawing media of your choice. Colored pencils, pens, watercolors, whatever. My favorite simple kit is to buy a very good quality Prismacolor pencils in red, blue, yellow, white and black.
- Sketchbook. They have very nice leather sketchbooks and sketchbook covers at Barnes and Noble. Buy one as a lifetime investment. THIS IS A REQUIREMENT OF ALL ARCHITECTURE STUDENTS.
- Miscellaneous papers and drawing tools, such as heavyweight Strathmore paper, watercolor paper, and compass.

You will also need a modeling kit:

- Modeling knife. Xacto is traditional favorite, but I like the break-off blades such as Olfa.
- Metal straight edge. 12" or 24".
- Cutting surface. I like glass, but self-healing pads are good too. You can buy a piece of glass and tape the edges so that you don't cut yourself.
- Modeling glue. Elmer's is pretty good and the special ones such as Tacky glue are even better.
- Pins, rubber bands, binder clips, paper clips, tape, Super Glue (don't glue your fingers together!).
- Cardboard, Strathmore board, basswood, plywood as needed.

You also need computer stuff:

- Hardware
 - Notebook computer capable of running Windows XP or Vista, with wireless LAN connectivity.
 - Digital camera, at least a camera phone
- Software
 - TAMU Link wireless network connectivity
 - Virtual Private Network
 - Autodesk AutoCAD 2010
 - Autodesk Revit Architecture 2010
 - Autodesk Green Building Studio

- Autodesk Ecotect
- Microsoft Office (Word, Excel, PowerPoint, Project)
- Microsoft toys of various sorts, such as MovieMaker, Windows Live.
- Adobe Photoshop
- Adobe InDesign
- Google Picasa
- An account on gmail, a blog on blogspot, a Picasa site, and membership on the class Google group.

Finally, you need stuff that architects have to do their job:

- Hard hat
- Tape measure
- Steel toe shoes (20 bucks at Academy)
- Jeans for wearing on construction sites and in the shop
- Business attire for wearing to formal meetings, design reviews and other times when you need to impress people who care about such things. (You need to dress up when you are accepting awards for your stellar design work and contributions to humanity.)

Demonstration that you have these materials and an appropriately equipped studio desk will constitute the "Desk check" in the grading.

Grading

Maximum score Subject and activity

5% Desk check

5% Departmental charrette

10% Timesheets and blog. Each student is expected to keep weekly timesheets and a blog. The timesheets will be completed on an online survey at <http://www.surveymonkey.com/s/ARCH207Timesheets> The blog is a digital copy of your sketchbook and should include doodles, design ideas, observations, insights, computer-generated imagery, photos, and text. Photos and images should be stored into Picasa albums for each week of the semester.

15% Computing knowledge. 2 quizzes and a final examination will test your knowledge of computing.

- 10% Design knowledge. A final examination will test your knowledge of architecture and design.
- 20% Project 1: College Station Passenger Depot. Each of three presentations is worth 4%, while the quality of design will be worth 8% and will be based on a rank ordering of projects by a review panel.
- 25% Project 2: House. Each of three presentations is worth 4%, while the quality of design will be worth 13% and will be based on a rank ordering of projects by a review panel.
- 5% *Book 1: College Station Passenger Depot*
- 5% *Book 2: House*

Contribution to *Book 3: Studio 21*, can earn up to 10 points of extra credit.

Grades will be distributed as percentage points at half point increments.

You are also expected to attend the department lecture series. It usually meets during class time on most Monday afternoons at 5:00.

Schedule

1/22/2010	Department charrette
1/25/2010	Department lecture series: Beatriz Colomina, Princeton University
2/8/2010	Department lecture series: Andreas Pedersen, Bjarke Ingels Group
2/12/2010	Computing Quiz 1
2/18/2010	Department lecture series: Sarah Whiting and Ron Witte, Rice University
2/19/2010	Project 1: Schematic review
3/1/2010	Department lecture series: Ted Flato, Lake/Flato Architects
3/3/2010	Preliminary review
3/8/2010	Department lecture series: Nicholas Boyarsky, Boyarsky Murphy Architects
3/31/2010	Computing Quiz 2, House innovations
4/5/2010	Project 2: Schematic review
4/5/2010	Department lecture series: Francois de Menil, FdM, Arch
4/16/2010	Project 2: Preliminary review

4/19/2010	Computing Final
4/26/2010	Project 2: Final review
4/28/2010	Architecture final exam
4/30/2010	Book 2 Exhibit

Philosophy

We work together to learn more. You will learn more from your classmates than you learn from your instructors. Individual initiative is critical; you need to figure out what you need to learn and then take the responsibility to see that you learn it. The design studio in Building C is our place to meet and learn together. We should keep it clean and make it beautiful as an expression of our ability as designers and commitment to design quality. You should be comfortable working there and may personalize your space to achieve that level of comfort.

You must give credit to whoever has taught you. You must properly cite references and credit ideas to the author of the idea. In some cases, I need to know exactly what you know and then you must not consult a classmate in answering the questions. Most of our assignments however will be completed more effectively if you discuss solutions with other classmates.

Stewardship

All members of our community are expected to contribute to a clean, orderly, respectful environment. I request your help in setting an example of such courtesies by disposing of trash, recycling materials when possible, assisting in security by closing doors and turning off lights, and avoiding actions that damage our facilities.

Particular problem areas have been spray painting that defaces our buildings and access to the roof that damages the roofing material.

A spray paint booth has been installed just outside the south side of Building A on the lowest level. If you need to paint, apply adhesive or use volatile chemicals, please use the spray booth.

Please do not go on the roof unless authorized by a member of the faculty, the staff or the administration. If you go on the roof, stay in the designated areas. Please help us keep the doors locked so that other people may not go on the roof without authorization.

Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

Academic Integrity Statement and Policy

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

For additional information please visit: <http://www.tamu.edu/aggiehonor>

Department Charrette

The department design charrette will be conducted on Friday, January 22, 2010.

1. all studio faculty (BED, MArch, Career Change) will meet in the 1st floor foyer of Langford A
2. meeting is at 8.30 am
3. Marcel and I will describe and hand out the programme
4. studio faculty then meet with their respective students, and hand out the programme
5. deadline for submission of all student work is 3.30 pm
6. each studio faculty must assist with the assembly and pin up of projects
7. venue for submission will be the 2nd and 3rd floors, Langford A
8. the design review panel will begin the evaluation process at 3.45 pm
9. and announce the winning projects at 5.00 pm
10. book prizes will be awarded to the winning students at 5.00 pm. Seven prizes will be awarded (BED years 1 to 4; MArch years 1 and 2, and Career Change studio).

You are expected to participate to the extent that is possible considering conflicts of other courses and other commitments. Please discuss with me the times that you will be able to participate.

My main advice in doing the charrette is simple: make something beautiful. It is unlikely that you can address an architectural problem in any very serious way in the given amount of time. Computers will be a bottleneck, unless you complete your design work before noon. So do a watercolor, make a model, make an elegant pencil sketch. Spend the two or three hours that you will have available making something that will give you pride. It only needs to have a vague connection to the assignment.

August 5th, 2009

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DEPARTMENT OF ARCHITECTURE / TEXAS A&M UNIVERSITY

The Studio Culture Statement is the official policy of the Department of Architecture at Texas

A&M University and will be published widely and used to guide design studio pedagogy.

STUDIO CULTURE AT TEXAS A&M UNIVERSITY: A POLICY STATEMENT

All students, faculty, administration and staff of the Department of Architecture at Texas A&M University are dedicated to the principle that the Design Studio is the central component of an effective education in architecture.

They are equally dedicated to the belief that students and faculty must lead balanced lives and use time wisely, including time outside the design studio, to gain from all aspects of a university education and world experiences. They also believe that design is the integration of many parts, that process is as important as product, and that the act of design and of professional practice is inherently interdisciplinary, requiring active and respectful collaboration with others.

The Operational Procedures are intended to provide a framework for the successful development of an effective Studio Culture, both as a part of the academic program and as a model for future professional practice.

OPERATIONAL PROCEDURES

Students and faculty in every design studio will embody the fundamental values of optimism, respect, sharing, engagement, and innovation. Every design studio will therefore encourage the rigorous exploration of ideas, diverse viewpoints, and the integration of all aspects of architecture (practical, theoretical, scientific, spiritual, and artistic), by providing a safe and supportive environment for thoughtful innovation.

Every design studio will increase skills in professional communication, through drawing, modeling, writing and speaking.

Every design studio will, as part of the syllabus introduced at the start of each class, include a clear statement on time management, and recognition of the critical importance of academic and personal growth, inside and outside the studio environment. As such it will be expected that faculty members and students devote quality time to studio activities, while respecting the need to attend to the broad spectrum of the academic life.

Every design studio will establish opportunities for timely and effective review of both process and products. Studio reviews will include student and faculty peer review. Where external reviewers are introduced, the design studio instructor will ensure that the visitors are aware of the Studio Culture Statement and recognize that the design critique is an integral part of the learning experience.

The design studio will be recognized as place for open communication and movement, while respecting the needs of others, and of the facilities.

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The Dissemination and Oversight Procedures are intended to ensure that all students, and all faculty members, whether assigned to design studios or not, are aware of the Studio Culture Policy and work together productively to maximize the value of this component of the departmental pedagogy.

Oversight suggests peer-review and mentoring at all levels, and presumes a positive role for those charged with administration, including the exploration of innovative teaching approaches, and opportunities to demonstrate collaboration both within the academy, with the design professions, and with the society we serve.

DISSEMINATION AND OVERSIGHT PROCEDURES

The Studio Culture statement shall appear on all studio syllabi, with a verbal introduction and personal philosophy statement provided by individual design faculty member at the start of each semester.

The statement will also be posted on the department and AIAS websites.

The Department Design Caucus will initiate a formal discussion on the statement at the start of each academic year, with express purpose of ensuring that all new and returning faculty members understand and embrace its philosophies, and understand its opportunities.

The AIAS and the administration of the Department will ensure regular and open communication on all aspect of the academic program, including Studio Culture.

The Head of Department will include consideration of Studio Culture as part of the Annual Review of faculty members. This may suggest the use of peer review, encouragement of visiting critics, and recognition that productive review of the process and outcomes of design is not the exclusive domain of those assigned to teach design studios.