

# Penn State University

Department of Architecture

**ARCH 441 - Architectural Design Analysis (3 credits) - Fall 2010**

## Syllabus

**23 August 2010**

**Arch 441, Architectural Design Analysis** "Studies in the principles and elements of design; planning for human use; the relationship of space to physical and social environment." Architectural Engineering majors only. Prerequisite: ARCH 130A. (Penn State Course Descriptions)

### Instructors:

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### T.A. :

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### Meeting times:

MWF 14:30 - 17:30 (Section 1)  
TR 13:30 - 17:30 (Section 3)

### Meeting place:

Studio, 301 Eng Unit A / Tel 814-863-2092  
AE Lecture Space 302 Eng Unit B,

### Course Objective:

**THE A IN AE:** Architecture is the framework within which architectural engineering work is performed. As such, AE students should gain certain basic competencies in architectural design methodology, presentation skills (graphic and verbal) as well as a basic understanding of architecture as an art form and a profession. Architectural education is a core component of the AE curriculum.

The **objective** of this course is to **explore** various approaches to architectural design, encourage creative and critical thinking and to reinforce the concept that there is no "right" or "wrong" answer to a design problem. "Design" is decision-making in itself -- the key to a successful project lies not only in the final **product**, but in the **process** leading up to it as well. In order to be successful, design solutions must respond to both formal ideas as well as human, environmental and technical realities. Thus, the interaction between art and technology becomes imperative. Coordination of the architectural engineering and construction management disciplines within the architectural design process will also be emphasized.

The design process is "open ended" and is rarely a "linear" process, but rather an **"iterative" process** which requires the exploration of many ideas and approaches to solving a problem. Many ideas are "thrown out" in the effort to determine a viable approach to the project. As with "real world" projects, project requirements may change during the course of the semester. **The design process is also rarely a "solitary process"** as virtually all real architectural **projects are produced by teams**, not by individuals. Although a portion of the course grade will be based on individual effort, the majority of the grade will be based on the performance of the team.

**Effective collaborative team work is essential** to success in this studio based course. Good communication and cooperation are expected. While each person may bring certain specific interests and skills to the team, equal contribution by each individual to the team effort is mandatory. Students should carefully select their team members based on complementary skills and ability to coordinate and collaborate. A mixture of AE options on each team is desirable as this more accurately reflects a "real world" design team. **Common team meeting / work time is very important;** therefore team member schedules should be considered prior to team selection.

Students are expected to substantially increase their **awareness** relative to design issues; **understanding** of the complex interactions between design issues; and **ability** to arrive at coherent design solutions. Building on prior architectural studio courses, students are expected to **further develop presentation skills** (verbal, hand drawn / digital media and physical models), gain competence in developing comprehensive and cohesive solutions to **more complex design problems**, and discern, judge and communicate **qualitative values**.

The course is organized as an **interactive studio**, requiring students' participation in readings, discussions, architectural analyses, review of student work, and other group activities.

The **ABET Accreditation Board** has established that an Architectural Engineering curriculum must meet common performance standards. This course specifically addresses the following outcomes:

<b>Expected Outcome Description</b>	<b>Emphasis</b>
An ability to design a system, component or process to meet desired needs	3
An ability to function on multi-disciplinary teams	3
An understanding of professional and ethical responsibility	1
An ability to communicate effectively	3
The broad education necessary to understand the impact of engineering solutions in a global and societal context	2
A knowledge of contemporary issues	1
An ability to use the techniques, skills, and modern engineering tools necessary for an engineering practice	2
An understanding of architectural design and design leading to architectural design that will permit communication, and interaction, with other design professionals in execution of building projects	3

1 = little emphasis; 2 = moderate emphasis; 3 = strong emphasis

**Schedule / Studio / Presentations:**

**Crits:** All teams will be scheduled for two instructor "crits" per week. **Progress on the project design is expected from crit to crit. Team members should meet prior to each crit to review and coordinate work effort.** Team members should not be seeing each other's work for the first time in front of the instructor. Instructors may assign specific work to be completed by the next crit. Team members should determine next steps and assign work prior to leaving the studio. As an effective design process requires collaboration, use of the studio space by the team is highly encouraged both during and outside class hours. **Each team shall schedule a minimum of two hours per week of common studio time (in addition to crit and presentation time). Each team shall notify the instructors of their scheduled common work time during the first week of crits.** Instructors may attend these additional team work sessions on occasion and are available for additional reviews or consultation during free studio hours, office hours, or by appointment.

**Studio Space:** The 301 Engineering A studio and 3<sup>rd</sup> Floor Engineering B presentation space are to be maintained in good condition for the use of all 2<sup>nd</sup> and 4<sup>th</sup> year AE students. Use of the studio space will be governed by the Studio Mission Statement and the Modus Operandi which are posted in the studio space. **NO SPRAY PAINTING WILL BE ALLOWED IN OR AROUND UNIVERSITY PROPERTY.**

**Presentations / Due Dates:** Formal team presentations will be scheduled throughout the semester (see course master schedule). In most cases, the teams will make presentations to a large group (students, instructors and, at times, outside jurors). These group presentations shall be of a professional quality and be made in a manner which engages a large group (effective graphic and verbal presentation techniques are critical). The quality of presentation will be considered in course grading.

**Presentation materials (text, graphic, digital and physical models) for all presentations must be documented by an instructor at the beginning of the class period on the due date (regardless of what day you may present). No additional work is to be completed beyond the due date/time.** Late submissions will be penalized at one-third grade reduction per day. Specific presentation material requirements will be detailed in the Exercise Brief which will be distributed prior to the start of each exercise.

Attire for semester final team presentations is to be "business casual" (to be defined in crit prior to presentation).

**Studio Culture Statement:** Link to Department of Architecture at [http://www.arch.psu.edu/students/survival\\_chap2.shtml](http://www.arch.psu.edu/students/survival_chap2.shtml)

## Attendance / Participation / Grading:

As a studio course is an interactive process, attendance at crits and presentations is essential to success. Attendance will be taken on a regular basis. More than two unexcused absences will have a negative impact on course grade. Attendance and participation in all team presentations by all team members is mandatory unless there is a dire emergency or serious illness. Excused absences will be permitted only for emergency / illness or approved professional activities (interviews, class trips, conference attendance, etc.). For professional activity excused absence you must notify your instructor in writing prior to class (e mail is acceptable) and provide person / organization information including contact number. Instructors reserve the right to approve or disapprove excused absence requests.

From time to time, class lectures or other class meetings may be held. Every effort will be made to try to accommodate students' schedules. Attendance at these lectures or meetings is expected.

While "attendance" is a requirement for "participation", attendance alone does not constitute participation. An effective studio learning environment requires participation by all and "active participation" in team work, team crits and presentations (both by presenting teams and student "audience") is expected and required. Failure to actively participate and productively contribute will negatively impact the individual grade.

Project Team "360" surveys may be completed at least one time during the semester. The primary purpose of these surveys is to identify methods to improve teamwork as well as to try to identify potential other issues (such as individual contribution) before they become serious impediments to the team's success. Honest and well thought out comments are expected. Failures to submit a responsive "360" survey will negatively impact the Attendance / Participation / Crit grade. Identity of specific individual survey responses will be known only by the course instructors.

Grading will be based on **creativity, completeness, clarity and professionalism** as applied to design **solutions and presentations**; studio **attendance and participation**; overall **personal initiative**. Consideration will be given for improved work product over the period of the semester.

PSU definitions will be applied in grading (Undergraduate Degree Programs Bulletin):

- A = excellent; indicates exceptional achievement
- B = good; indicates extensive achievement
- C = satisfactory; indicates acceptable achievement
- D = poor; indicates only minimal achievement
- F = failure; indicates inadequate achievement

### **20% - Attendance/participation/desk crits:**

Attendance at all classes is expected (see Attendance / Participation above). Repeated unexcused absences or tardiness will have a negative impact on the individual final grade. Students are expected to show significant progress during the scheduled, interactive bi-weekly desk critiques. Active participation in all class activities and individual contribution to team projects are required.

### **80% - Projects (including presentations):**

The relative weight of each exercise will be commensurate to the amount of time allotted. The duration of each exercise will include review/feedback time (desk crits, pin-ups, juried and non-juried presentations). Detailed Exercise Briefs with project description and requirements will be issued at the beginning of each exercise.

## Textbooks / References / Materials:

There are no required textbooks for this course.

Reference material will be specified within each Exercise Brief. Reference materials will be held on Reserve at the Stuckeman Family Building Library (SALA).

Students will be required to supply all necessary design, presentation and model building materials.