

Architectural design studio V

Performative Architecture: building systems

Studio Instructors:

Christian Pongratz (section 393-398, room 702)
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Course Information: ARCH 3502

Architectural Design Studio V (5:2:8)

Prerequisite: Arch 3501

Credits: 5 semester credit hours

Course Meeting Times:

Monday: 01:00-04:20PM

Wednesday: 01:00-04:20PM

Friday: 01:00-04:20PM

Building systems. Teaches design skills centered on the building as a technological system and ecological device. Considers site and building details.

Course Description:

Performative Architecture. Emphasis on conceptual and productive design skills, which cultivates an understanding of the relationship between design information and construction information. The student learns that digital tools expand and influence current representation and production methods alike.

The class focus is on the underlying strategies and techniques of integration.– in particular building systems, structure and envelope as they perform and respond to the changes in environmental conditions with various materials and fabrication technologies.

The guiding design principle is building performance in its fullest sense, where *form making and space generation* is extended to a qualitative performance simulation. Selected process parameters are predominantly technical (site, climate, sun, construction materials and methods etc..) and additionally regulatory conditions (program, codes and building economy), all expected to redefine the students skills by adding another set of instrumentality.

The studio is intended as integrating the past and concurrent core courses such as construction, environmental controls, digital media and others.

The students will be accountable for producing a building that draws together concerns for:

- a. sensitive site treatment (both experientially and environmentally)
- b. a critical theoretical position about architectural design and its broader cultural role
- c. an awareness of the building's role in enhancing and nurturing the everyday life and functions that occur within it
- d. creation of sophisticated architectural form
- e. use of appropriate experiential character to reinforce moods and feelings
- f. responsible use of material resources, at best in a sustainable sense
- g. sensitive reaction to climatic conditions
- h. clear definition of structural, technical and circulation systems
- i. awareness of safety and regulatory compliance
- j. architecture which makes a clear contribution to its culture and the future

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The third year studio sequence is particularly dedicated to developing the collaborative skills of students and the class work will be achieved in great part as team work.

Featured NAAB Student Performance Criteria for ARCH 3502:

3. Graphics Skills

Ability to use appropriate representational media, including freehand drawing and computer technology, to convey essential formal elements at each stage of the programming and design process

7. Collaborative skills

Ability to recognize the varied talent found in interdisciplinary design project teams in professional practice and work in collaboration with other students as members of a design team

17. Site Conditions

Ability to respond to natural and built site characteristics in the development of a program and the design of a project

21. Building Envelope systems

Understanding of the basic principles and appropriate application and performance of building envelope materials and systems.

23. Building Systems Integration

Ability to assess, select, and conceptually integrate structural systems, building envelope systems, environmental systems, life-safety systems, and building service systems into building design

24. Building Materials and Assemblies

Understanding of the basic principles and appropriate application and performance of construction materials, products, components, and assemblies, including their environmental impact and reuse

26. Technical Documentation

Ability to make technically precise drawings and write outline specifications for a proposed design

General Methods: Arch 3502 is a design class that requires a substantial dedication and investment of student time, skill, and critical thought both during and after official studio hours. As a part of design studio instruction, students are required to participate in all lectures, discussions, and field trips, as well as group and individual critiques of assignments and projects. Production and hard work are key in this studio. Specific drawings and models will be requested during studio project phases. Studio often begins with a group pinup, followed by assignments, lectures, presentations, discussions, or individual critiques on the project as needed. Digital media are the major means of exploration of new ways of design and help acquire new methods and techniques.

Criticism: Students are expected to have committed analog and digital exploration and representation of a completed thought for each studio day. Superficial or minor changes to a project and individual phases, or merely verbal descriptions will not be critiqued.

You must have adequate graphical documentation to back up your ideas and a significant amount of new work displayed in order to receive criticism.

Studio Culture: Expect to spend a significant amount of time working on your studio project outside of class time. In class contact time is 3 times 3.5 hours. The outside time is expected to be a minimum of 2 times the class contact time. It is strongly suggested that you get into the habit of working in the studio after hours.

Computers: Latest student computer minimum specifications are available at <http://www.arch.ttu.edu/architecture/computers.asp> Technical difficulties, viruses, crashes, server and print bureau problems, or corrupted files will not be accepted as legitimate excuses. ALL WORK SHOULD BE CONTINUOUSLY SAVED AND REGULARLY BACKED UP. All work must be printed before class to be considered timely. Class time will not be used for printing.

Required Texts Building Construction:

- The Architect's Studio Companion, Edward Allen and Joseph Lano, Latest edition
- Fundamentals of Building Construction, Edward Allen, John Wiley and Sons, Latest edition
- Building Construction Illustrated, Francis Ching, VNR Press, Latest edition
- Building Codes Illustrated, Francis Ching, John Wiley and Sons, Latest edition

References: (On Reserve In Library)

- Architectural Graphic Standards, Wiley, Latest Edition
- Americans with Disabilities Act Accessibility Guidelines, www.access-board.gov/adaag/html/adaag.htm.
- Architectural Drawing: A Visual Compendium of Types and Methods, Rendow Yee
- Concrete Construction Manual, Kind Barkauskas, Kauhsen, Polonyi, Brandt, Birkhauser Publishing
- Details of Modern Architecture, Edward Ford, MIT Press, 1990
- Heating Cooling Lighting, Nobert Lechner
- International Building Code 2000, ICC
- Pocket Guide to Texas Accessibility Standards (Full Text Version), Evan Terry and Associates, Birmingham, Alabama, (<http://www.evanterry.com/>)
- Studies in Tectonic Culture, Kenneth Frampton

Required Texts Design: There will be additional books required related to the design and design process phases, and will be indicated by the instructor in the course of the semester.

Field Trip Requirements:

All students are required to attend field trips if scheduled. Permission sheet will be signed beforehand. Attendance will be taken. There might be optional field trips at the instructors discretion.

Additional Requirements:

There may be additional requirements, required materials, readings, and references as the semester progresses indicated by the instructor.

Academic Integrity:

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and a high standard of integrity. As such, the College of Architecture follows the university academic regulations pertaining to Cheating and Plagiarism as set forth in the Undergraduate and Graduate catalog, 2003-2004, page 49. Additionally, refer to the *Student Affairs Handbook* for the University definition and policy regarding plagiarism, disciplinary sanctions, conditions, and restrictions.

Plagiarism includes offering the work of another student as one's own, work drawn, made or designed by another student or design work copied from any other person and source without full and clear acknowledgement. It is quite OK to use precedent as long as you give attribution. Students are expected to have done the work that is claimed as their own. **As a matter of course, you will acknowledge your sources with the appropriate footnote or endnote.**

Attendance Policy: The College of Architecture follows the class attendance policy set out in the Undergraduate Catalog, 2004-2005. Students are responsible for attending class. Four absences are considered excessive and constitute cause for having the student drop the class or receive a grade of "F". Whether absence is excused or unexcused is determined solely by the instructor with the exception of absences due to religious observance and officially approved trips in the semester. Students are expected to comply with TTU rules for reporting student illness requiring absence from class for more than one week or immediate family deaths. Students are required to work in studio during studio hours. Work in studio requires students to have their computer, printer, drawing tools, materials and supplies available at all times. Work includes participation in pinups, lectures, and discussions. **Note:** *Failure to work in class with undivided attention, the lack of appropriate tools and materials, any tardiness, leaving early, lack of participation, general*

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socializing, goofing around, disruptive behavior, etc. will be regarded as absences. You are not allowed to work on assignments from other classes during this class.

Civility in the classroom: Students are expected to assist in maintaining a classroom environment (during or after hours) that is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited in engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, minimally, in a request to leave the class.

Room requirements: Studio room - keep the studio doors locked at all times
Students need to comply with Architectural building policy.

ADA, Equal Opportunity and Access to Facilities:

The University is committed to the principle that in no aspect of its programs shall there be differences in the treatment of persons because of race, creed, national origin, age, sex, or disability, and that equal opportunity and access to facilities shall be available to all. If you require special accommodations in order to participate, please contact the instructor. Students should present appropriate verification from Disabled Students Services, Dean of Students Office. No requirement exists that accommodations be made prior to completion of this approved University process. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. Contact office 335, West Hall, or 806-742-2405.

Academic Regulations: Please consult the Texas Tech University 2004-05 Catalog, (pp. 52-56) for information about *Semester Hours and Course Loads, Dropping a Course, Class Attendance, Reporting Illness, Absence Due to Religious Observance, Academic Integrity, Civility in the Classroom, and Grading Practices; Equal Opportunity statement is on p. 2.* Students must comply with ALL requirements of the **Architecture Building Policy** posted on the college web site at <http://www.arch.ttu.edu/Architecture/>

Method of Assessment: Grades from finished projects, process work, regular interaction with instructor, critiques, final documentation, participation in class and readings are factors of grading and accessing accomplishment and understanding of above criteria. Production and hard work lead to improvement. Growth is key. There is no final exam. This is not a quantifiable, exact, or mathematical assessment.

Project Requirements: Each studio faculty determines project/assignment requirements and deadlines. All Assignments must be completed in a timely manner. There will be no extensions to due dates.

PROJECT GRADING

Grading is a certification that the student has clearly demonstrated a level of expertise as required in each design project or exercise.

"A" indicates that the level of expertise is superior (excellent work.)

"B" indicates the project task or problem is clearly resolved but lacks in-depth study or resolution in one or two areas.

"C" indicates the level of work is satisfactory; perhaps somewhat mediocre.

"D" indicates the level of expertise is minimal and weak. (This is a passing grade for the University; however, a minimum grade of "C" is required to proceed to the next design level.)

"F" grade indicates a failure to respond to adequately

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Plus and minus marks may be used to indicate higher and lower rating in each grade division for the purposes of averaging progress reports and final grades. A student who has shown her or his clear successful improvement throughout the semester may be given the advantage in the case of borderline final grade averages.

GRADE EQUIVALENCES

A+=	98-100	B+=	87-89	C+=	77-79	D=	65-69
A=	94-97	B=	84-86	C=	74-76	F=	Below 65
A-=	90-93	B-=	80-83	C-=	70-73		

Final Documentation:

All models digital and physical, drawings will be documented in high quality digital forms for the end of the semester. This will be weighted with the rest of the semester's work towards the final grade.

Student work: The College of Architecture reserves the rights to retain, exhibit, and reproduce work submitted by students. Work submitted for grade is the property of the college and remains as such until it is returned to the student. For exhibition purposes keep all material available for the instructor at the end of semester.

For further information on schedules, deadlines and other requirements, see project statements, handouts, or web postings by your studio instructor.