

**ARCHITECTURE 206 – Section 202 - Spring 2010 - Jerry Maffei AIA**  
**gmaffei@tamu.edu - Office - 136 Langford**

**I COURSE DESCRIPTION**

Architecture Design II, Fundamental issues of innovative design processes and creation explored through the creative use of past, present and future materials, tools and technologies; with an emphasis upon the research of materials, methods, scale, craft and technique as instruments of design, fabrication, and production.  
Prerequisites: ENDS 105, 106, 115, 116

**II INTRODUCTION**

Short exercises which focus on a variety of design issues.

**III COURSE OBJECTIVES**

- Learn to communicate ideas simply.
- Become more skillful in researching, drawing and model making.
- Learn to design quickly and efficiently
- Learn about building construction
- Understand the relationship between building form and construction

**IV PROJECT REQUIREMENTS**

Each Project should:

- Be economical to construct
- Focus on the use of local materials and products
- Emphasize a material's natural character
- Contribute to a sustainable\* environment
- Use materials with large recycled content and reuse potential
- Conserve natural resources
- Use materials that age well
- Take advantage of the aroma, acoustic quality, density and visual character of materials
- Allow the building's working parts to be understandable
- Conform to the user's needs and preferred views
- Clarify the local environment and make it more understandable
- Create a comfortable fit between the design and the context
- Allow for the potential for change, day to day and over time
- Create a balance between community and privacy
- Use natural light as an architectural element
- Provide for a gentle transition between the public and private realms
- Show clearly how building components fit together in your details
- Disturb the site as little as possible
- Use heat gain/heat loss through the building's walls and ceiling to your advantage
- Allow the user to easily adjust the size of the building's openings
- Use materials, site design and orientation as part of a thermal comfort strategy
- Help users feel at ease and unworried when in a wheel chair, or on crutches
- Use outdoor spaces as an extension of interior spaces

- Accompany each project's documentation with a one-page, double-spaced typed explanation of how you have satisfied the above requirements.

\*

**Sustainability:** The World Building Congress defines "sustainability" as "meeting our needs today without compromising the ability of future generations to meet their own needs."

**Sustainable design:** Sustainable design recognizes the interdependence of the built and natural environments. It is a broad, holistic and inclusive approach to building, planning, design, construction and operation that is efficient and restorative, promoting the health and productivity of building occupants and the larger community. Sustainable design eliminates extractive and disposable systems that are energy-intensive, resource-inefficient and toxic and it creates cyclical, closed-loop systems that are restorative, dynamic and flexible.

**Green building:** Green building is an informed process that represents a conscious effort to move toward sustainable design of the built environment. While sustainable design represents the ultimate design goal, green building is a term commonly used to describe the results being achieved by leading practitioners today.

## **Project One**

### **A Harmony of Art & Science**

**Assume that Art is the expression of your personal view of the world and that Science is the technological understanding of how buildings go together.**

**"The architect must always develop the form of art from construction."**

**Otto Wagner**

**"Building, when it became great, was almost always indebted to construction, and construction was almost always the conveyer of its spatial form."**

**Mies van der Rohe**

**Design a 4000 sq ft, pavilion in front of Langford that can be shipped to the site, erected and then, at some later date disassembled.**

Decide the building's purpose and your personal view of the world.

Use mainly 2" x 4" x 8' wood for basic structure, polycarbonate sheets for skin and a foundation system that least disturbs the site.

Locate openings that clarify the building system as well as satisfy its proposed use.

Show how the form of the building is logical, given the constraints.

Show how the Structure, Skin and Foundation express a clear message that is appropriate to its climate, topography, culture, context and your personal view of the world.

**Document this project with:**

**1) a one-page, double-spaced typed explanation of how you have satisfied the above requirements**

**2) clear, focused 8.5 x 11 inch photos showing the pavilion, on the site with adjacent buildings, scale objects and figures**

**3) an 8.5 x 11 inch print of your drawing**

## **Project Two**

### **Community and Privacy**

**“...what most defines a house is what links it most directly to the surrounding and extended landscape...walls that are at once public and private, domestic and civic, or nearby and remote.” Leatherbarrow**

**Design the exterior and interior of a 1000 sq ft house in East Austin Texas for an Olympic swimmer.**

Use concrete masonry units for all walls and wood no larger than 10” x 2” for the roof. Place this on a 40 ft wide x 55 ft deep, south facing lot with zero setback on north and east side and 5 ft setback on west side. (No building can be placed in the 5 ft setback zone.) The lot is surrounded with a 15 ft high masonry wall on all but the south side. No part of the building can be higher than the wall. No structure (excluding fences) can be closer than 25 feet from the front property line. There is a 4 ft wide sidewalk between the lot and the street. Include off-street parking of two Prius-size cars.

Pay particular attention to the transition between the public street and the private interior.

**He/she should be able to:**

Emotionally leave the public realm of the street and prepare for the quiet and calm sanctuary within.

Feel at ease and unworried when in a wheel chair or crutches.

Use all outdoor space as an extension of the interior living space.

See who is calling without them seeing him/her.

Use the exterior space day or night, without bothering neighbors.

Show the experience from street and/or car, to the interior.

Identify the elements that contribute to the transition from public to private.

Illustrate the control of light, privacy, textures, levels, enclosure and views.

Illustrate how space is used in ways other than circulation.

**Document this project with:**

**1) a one-page, double-spaced typed explanation of how you have satisfied the above requirements**

**2) clear, focused 8.5 x 11 inch photos showing the pavilion, on site with scale figures**

**3) an 8.5 x 11 inch print of your drawing(s)**

## **V COURSE SCHEDULE**

### **Week 1**

January	20	Work in class and Discussion on Popsicle Stick Project
January	22	Departmental Design Charrette in teams of two

### **Week 2**

January	25	Presentation and discussion of Popsicle Sticks Ideas Beatriz Colomina of Princeton to Lecture at 5:00 in Geren
January	27	Work in class on Popsicle Stick Long Span
January	29	Work in class on Popsicle Stick Long Span

Week 3

February 1 Review Popsicle Stick Long Span  
**Issue Pavilion Project**  
February 3 Work in class  
February 5 Work in class

Week 4

February 8 Review Pavilion Project  
Andreas Pedersen of Copenhagen to Lecture at 5:00 in Geren  
February 10 Work in class on Pavilion Sequence Construction Drawing  
February 12 Work in class on Pavilion Sequence Construction Drawing

Week 5

February 15 Review Pavilion Sequence Construction Drawings  
February 17 Work in class on Final Pavilion Model  
*Thursday February, 18 - Sarah Whiting and Ron Witte of Rice to Lecture at 5:00 in Geren*  
February 19 Work in class on Final Pavilion Model

Week 6

February 22 Review Pavilion Final Model  
February 24 Photograph Pavilion  
February 26 Photograph Pavilion

Week 7

March 1 Ted Flato to Lecture at 5:00 in Geren  
Documentation of Pavilion Due  
**Issue Housing Project**  
March 3 Work in class on Housing Project  
March 5 Work in class on Housing Project

Week 8

March 8 Work in class on Housing Project  
Nicholas Boyarsky of London to Lecture at 5:00 in Geren  
March 10 Preliminary Review I of Housing Project  
March 12 *Pre Spring Break - No Class*

*Spring Break - March 15 - 19*

Week 9

March 22 Work in class on Housing  
March 24 Work in class on Housing  
March 26 Work in class on Housing

Week 10

March	29	Preliminary Review II of Housing Project
March	31	Work in class on Drawing
April	2	<i>Reading Day, No Class</i>
Week 11		
April	5	Work in class on Drawing Francois de Menil of New York to Lecture at 5:00 in Geren
April	7	Work in class on Drawing
April	9	Work in class on Drawing
Week 12		
April	12	Review Housing Drawings
April	14	Work in class on Final Model
April	16	Work in class on Final Model
Week 13		
April	19	Work in class on Final Model
April	21	Work in class on Final Model
April	23	No Class - Rowlett Lectures in Rudder
Week 14		
April	26	Photograph Final Model
April	28	Photograph Final Model
April	30	Final Review
May 10		Portfolio of the spring semester's work due at 6:00 p.m. into a box in front of my office, 136 Langford

## VI PERFORMANCE EVALUATION

Documentation of the semester's work must be 8 1/2" x 11" high quality, clearly focused photos and prints, together with a one page, double-spaced typewritten explanation of each project in a manila folder.

Criteria for evaluation:

- Have the requirements for each project been well met?
- Will the building go together easily and economically?
- Will the users be comfortable with a minimum of natural resource depletion?
- Will the building age gracefully and have a long life?
- Are the drawings and models well crafted and complete?
- Are the building materials recyclable and/or contain a highly recycled content?

## VII ATTENDANCE, SUBMITTAL AND REGULATIONS

- More than three unexcused absences will constitute an "F" for the semester.
- Students exceeding three absences without valid, documented excuses (see student handbook) may contact the instructor concerning a grade of withdraw passing.
- Necessary supplies and documents must be brought to class before studio begins.
- Students are expected to be in class, working for the entire class period.

- Research (Library and TRC) must be done outside studio hours.
- Be familiar with the Aggie Honor System. (<http://www.tamu.edu/aggiehonor/>)
- Late projects will receive a grade of "F".
- All listed Departmental Lectures are required attendance.
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### **VIII ADA ACCOMMODATIONS**

The American 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 the Office of Support Services for Students with Disabilities at 845-1637, <http://disability.tamu.edu>.

### **IX ESTIMATED COSTS**

Required books	\$150.00
Documentation for portfolio	\$100.00
Materials	\$100.00

### **X REQUIRED (\*\*\*) & SUGGESTED BOOKS (\*\*)**

\*Allen, Architectural Detailing, Wiley & Sons  
(\$43)

\*\*Balmond, Informal, Prestel  
(\$20)

\*\*Benedikt, For an Architecture of Reality, Lumen  
(\$11)

\*\*Deplazes, Ed. Constructing Architecture, Materials, Processes, Structure, Birkhauser  
(\$60)

\*\*Nordensen, Ed. Seven Structural Engineers, Felix Candela Lectures, MoMA  
(\$30)

\*\*\*Ramsey & Sleeper, Architectural Graphic Standards, Student Edition, Wiley & Sons  
(\$70)

### **XI SUGGESTED READING**

#### Basic Reference

Allen, Edward, How Buildings Work, The Natural Order of Architecture

Allen & Iano, The Architect's Studio Companion

Benedikt, Deconstructing the Kimbell

Ching, Francis, Winkel, Steven, Building Codes Illustrated

Ching, Francis, Building Construction Illustrated

Ching, Francis, A Visual dictionary of Architecture

DeClara, Joseph, Time-Saver Standards for Building Types

Frampton, Kenneth, Studies in Tectonic Culture, MIT Press

McGowan & Kruse, Interior Graphic Standards, Student Edition  
Reid, Esmond, Understanding Buildings  
Simmons & Olin, Construction, Principles, Materials, and Methods  
Zumthor, Peter, Thinking Architecture

#### Materials of Construction

Allen & Thallon, Fundamentals of Residential Construction  
Bliss, Steven, Best Practices Guide to Residential Construction  
Frohllich & Schulenburg, Eds, Metal Architecture Design & Construction  
Hornbostel, Caleb, Construction Materials: Types, Uses and Applications  
Jackson, Neil, The Modern Steel House  
Lorre, E. N., Residential Steel Framing Construction Guide  
Rosen, Harold, Construction Materials: Evaluation & Selection  
Ruske, Timber Construction

#### Exterior Envelope

Brookes, Alan, The Building Envelope

#### Mostafavi & Leatherbarrow, Surface Architecture

Nashed, Fred, Exterior Wall Design

#### Theory

Harries, Karsten, The Ethical Function of Architecture  
Hartoonian, Ontology of Construction  
Leatherbarrow, David, The Roots of Architectural Invention  
Mostafavi & Leatherbarrow, On Weathering  
Nesbitt, Kate, Theorizing A New Agenda For Architecture

#### Guidelines

Alexander, Christopher, A Pattern Language  
Chermayeff & Alexander, Community And Privacy

Marcus, Clare Cooper, Sarkissian, Wendy, Housing As If People Mattered  
Marcus, Clare Cooper, People Places: Design guidelines for Urban Open Space

#### Roofs

Becker, Maxwell C., Roofs-Design, Application & Maintenance

## **XII SOME ON-LINE SOURCES**

#### Wood

<http://www.apawood.org/>

<http://fincolorply.com/>

<http://www.forestprod.org/>

<http://www.edensaw.com/>

<http://www.paxton-woodsource.com>

<http://www.tjm.com/>

<http://www.wvpa.org>

#### Windows/Doors

<http://www.afgd.com/>  
<http://www.durathermwindow.com>  
<http://www.efficientwindows.org>  
<http://www.hopesproducts.com>  
<http://www.inkan.on.ca/index.html>  
<http://www.schottglass.com/okalux.htm>  
<http://www.VELUX-AMERICA.com>  
<http://windows.lbl.gov>  
<http://www.ykkap.com>  
<http://www.kenner-usa.com/>  
<http://www.loewen.com/>  
<http://www.lindal.com/sunrooms/windows.cfm>  
<http://www.afgd.com/>  
Sustainable  
<http://www.pwicf.com/>  
<http://www.ebuild.com/>  
<http://www.montana.com/crbt/>  
<http://www.buildinggreen.com/>  
<http://www.fsec.ucf.edu>  
<http://www.usgbc.org/programs/leed-frames.htm>  
<http://www.gypsum.org/>  
<http://www.pwicf.com>  
Sound and Thermal  
<http://www.midwayenvironmental>  
<http://www.walltechnology.com/products/baffles.html>  
<http://www.owenscorning.com/comminsul/index.asp>  
<http://www.tectum.com/com/>  
Product Source  
<http://www.afsonl.com>  
<http://www.sweets.com/>  
<http://www.tamlyn.com>

## 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.

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.

### NOW AN OFFICIAL UNIVERSITY REGULATION

No paint or adhesive spraying inside or outside our buildings, except in the spray-booth located in the Langford exterior courtyard. Those found breaking this rule must pay the cost of cleanup. Please help us eliminate graffiti, paint and adhesive overspray in our buildings.

