

ARC 6973 SPECIAL TOPICS – SPRING 2010

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This Syllabus is provided for informational purposes regarding the anticipated course content and schedule of this course. It is based upon the most recent information available on the date of its issuance and is as accurate and complete as possible. I reserve the right to make any changes I deem necessary and/or appropriate. I will make my best efforts to communicate any changes in the syllabus in a timely manner. Students are responsible for being aware of these changes.

CATALOGUE DESCRIPTION

ARC 6973, Special Topics (3-0,) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Topics courses may be repeated for credit when topics vary, but not more than 6 semester credit hours for ARC 6973 or 12 hours for ARC 6976 will apply to the Master of Architecture degree or the Master of Science degree. **ARC 6973 is cross-listed with ARC 2223 – Building Tech II**

COURSE LEARNING OBJECTIVES

Understanding the basics of Statics and Strength of Materials with focus on understanding the effects of loads on a structural member or a system, developing the ability to interpret on the effects of loads and load combinations on behavior of structures, analyzing structures with various load combinations, understanding the basics of structural design of simple structural members and systems, understanding the material and geometrical characteristics of structural members and their effects on structural capacity.

COURSE CONTENT

Introduction to Statics and Strength of Materials; Forces and Force Systems; Equilibrium of Forces; Truss and Frame Analysis; Center of Gravity and Centroids; Moment of Inertia; Stress and Strain, Shear Forces and Bending Moments; Beam Behavior and Bending Stress

As this class is cross-listed with ARC2223, the graduate students are required to cover every topic that is covered in undergraduate class. Additionally, they will be given the basics of the primary structural materials as concrete, steel, timber and masonry. This topic will not be covered in undergraduate class

given that they have already been taught in the previous classes. 'Material Selection for Structural Design', 'Alternative Construction Types', 'General Information about Codes and Regulations' and 'Calculation of Loads' are the other topics that will be covered for graduate students. They are expected to do the main research on these terms and their works will be regarded as weekly homework.

NAAB CRITERIA

For purpose of accreditation, students must demonstrate *UNDERSTANDING* or *ABILITY* in the following areas:

Structural Systems (*Understanding of principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems*)

GRADES

Grades will be based upon assignments, one midterm exam, one final exam and attendance. Homework will be checked and discussed regularly in class; and students who need further research on the topic will be encouraged to do so. Students making a C or less at the midterm will be suggested to reconsider their situation. Failure to take the tests and/or submissions due to family issues or medical emergency should be proved by a note from a family member or health care provider. Whether the excuse is acceptable or not will be determined by the instructor.

Course evaluations will be based on the following outcomes:

Assignments	30%
Midterm Exam	30%
Final Exam	30%
Attendance	<u>10%</u>
Total	100%

In keeping with University policy, an A (90 to 100%) is awarded for excellent ability to analyze the systems and problem solving; a B (80 to 89%) denotes work that is above average; a C (70-79%) is given for average; a D (60 to 69%) denotes below average work and is evidence that the student might reconsider the field endeavor; an F (below 60%) indicates an almost complete inability or disinterest of the student.

Important dates:

For homework: Students will be assigned with mostly weekly homework that covers the revision of the material covered in class. The homework will be uploaded on Blackboard, but the submissions will be given to either the instructor, or the Graduate Assistants. It is the STUDENTS' responsibility to check Blackboard regularly for any new homework.

Midterm exam: June 14, 2010

Final Exam: University's final exam schedule will be followed.

ATTENDANCE

Attendance is mandatory in this course. Students who miss 0-3 classes will get the total 10% of the attendance. Those that miss 4-7 classes will get 5%, while students missing more than 7 classes will not get any points for attendance.

REFERENCE MATERIAL:

1. Applied Statics and Strength of Materials by Thomas Burns (Textbook)
2. Statics and Strength of Materials for Architecture and Building Construction by Barry S. Onouye and Kevin Kane
3. Basic Structures for Engineers and Architects by Philip Garrison
4. Structural and Stress Analysis by T.H.G. Megson
5. How Structures Work: Design and Behaviour from Bridges to Buildings by David Yeomans
6. Introduction to Structural Analysis & Design by S. D. Rajan
7. Architectural Structures by J. Wayne Place
8. Structure and Architecture by Angus J. Macdonald

Academic Dishonesty

Plagiarism and academic dishonesty is a serious matter that will not be tolerated in this course. Any such incident will result automatic failure in the project or assignment involved. Please refer to the official UTSA Scholastic Dishonesty Policy available for view in the current university catalogue.

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provide reasonable accommodation related to a disability, please make an appointment to discuss your needs.

Drop or Withdrawal Policy

It is the student's responsibility to drop or withdraw from the course prior to the due date set by the University's regulations.

QEP

This course addresses the objectives of the UTSA Quality Enhancement Plan (QEP). The QEP is a course of action designed to enhance student learning and is a required component of the accreditation process conducted by the Southern Association of Colleges and Schools (SACS). The UTSA QEP *Quantitative Scholarship: From Literacy to Mastery* provides you with the skills needed to evaluate and interpret data, understand risks and benefits, and make informed decisions in your personal and professional lives. The plan focuses on integrating quantitative reasoning and communication skills in **existing** courses across the undergraduate curriculum. The SACS team will visit UTSA during March 23-

25, 2010 to review the reaccreditation plan. All UTSA students, faculty, and staff are encouraged to learn more about the QEP by visiting the website www.utsa.edu/qep