

COURSE TITLE	Fall 2010 ARC 4543 Structures 4 --Online -2032 ARC 5543 Advance Structures -- Online -2033
INSTRUCTOR TA (Teaching Assistant)	Adil George Moosa, Ph.D, PE Senior Structural Engineer AiD Engineering Co , Madison Hts, MI. Email: Aidengineering@yahoo.com , Phone (248) 284 0089 Fax (248) 398 3822 Taylor Blohm Email: taylorblohm@gmail.com Office hour's campus meetings would be by appointment only. For live discussion office hours, please refer to the COURSE SCHEDULE
SCHEDULE	ARC4543 & 5543 Structures 4 Online Course, 14 Weeks August 25th – December 18th
LEVEL/ HOURS PREREQUISITE	Graduate or Undergraduate 3-4 Credit Hours Math Analysis 2, Physics 2, Structures 1, 2 and 3.
REQUIRED TEXT	<i>Structures</i> , 6th edition, by Daniel Schodek, ISBN 0-13-178939-2 (Prentice Hall 2008), Available for online purchase through LTU Bookstore.
ADDITIONAL RESOURCES	LTU Online student resources: http://www.ltu.edu/ltuonline/
TECHNICAL SUPPORT	Technical support for using Blackboard is provided by the Helpdesk, (248) 204 2330 or helpdesk@ltu.edu

COURSE SCHEDULE FOR FALL SEMESTER COURSE

This fully online course begins with a partial week online course orientation period to familiarize yourself with the online learning environment and to meet online or via the phone with your instructor. Each subsequent week starts on a Monday and ends on a Sunday.

Dates	Modules	Topics / Readings	Assignments Due
Prior to Semester Start and Aug 25 – Aug 29	Module 0	Overview of textbook Online Learning Orientation Course Orientation and group formation	Instructor conversation Individual pre-assessment Propose teams Solve and submit a sample assignment Take the practice quiz and submit back using Bb
Week of Aug 30 – Sep 5	Module 1	Chapter 1 Structures: An Overview Sections 1.1 to 1.5	HW#1 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Sep 6 – Sep 12	Module 2	Chapter 13 Structural Grid & patterns Sections 13.1 to 13.4.4	HW#2 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Sep 13 – Sep 19	Module 3	Chapter 3 Intro to Structural Analysis & Design Sections 3.1 to 3.3.3, 3.3.6 to the end of the chapter.	HW#3 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Sep 20 – Sep 26	Module 4	Chapter 14 Design for lateral Loading Section 14.1, Sec3.3.3 Wind Provided Code Scans	HW#4 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday Instructor live Office Hours, Friday 8-11 pm EST
September 26th		Test#1	
Week of Sep 27 – Oct 3	Module 5	Chapter 14 Earthquake Design & Considerations Sec 14.2, Sec3.3.4 Earthquake Forces Provided Code Scans	HW#5 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST

Dates	Modules	Topics / Readings	Assignments Due
Week of Oct 4 – Oct 10	Module 6 Graduate Student Project Proposal	Lateral Bracing Systems Section 14.1	HW#6 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Oct 11 – Oct 17	Module 7 Graduate Student Project Selection	Chapter 4 Trusses Sections 4.1 to 4.3.10 and 4.4 to the end of the chapter	HW#7 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday Instructor live Office Hours, Friday 8-11 pm EST
October 17th		Test#2	
Week of Oct 18 – Oct 24	Module 8 Graduate & Undergraduate Student Projects Commence	Chapter 5 Funicular Structures Cables Sections 5.1 to 5.5	HW#8 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Oct 25 – Oct 31	Module 9	Chapter 5 Funicular Structures Arches Sec 5.5 to the end of the chapter	HW#9 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Nov 1 – Nov 7	Module 10	Chapter 9 Rigid Frames All Sections of the chapter	HW#10 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST
Week of Nov 8 – Nov 14	Module 11	Chapter 10 Plates & Grid Structures Sections 10.1 to 10.5, and 10.6 to the end of the chapter	HW#11 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday Instructor live Office Hours, Friday 8-11 pm EST
November 14th		Test#3	
Week of Nov 15 – Nov 21	Module 12	Chapter 11 Membrane & Net Structures All Sections of the chapter	HW#12 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday TA live Office Hours, Friday 8-10 pm EST

Dates	Modules	Topics / Readings	Assignments Due
Week of Nov 22 – Nov 28	Module 13	Chapter 12 Shell Structures- Domes Sections 12.1 to 12.3 Light Week – Thanksgiving Break	HW#13 posting date Tuesday and due on following Monday Bb Discussion Board by anytime during the week
Week of Nov 29 – Dec 5	Module 14	Chapter 12 Cylindrical & Hyperbolic Paraboloid Shells Sections 12.3, 12.4 & 12.6	HW#12 posting date Wednesday and due on following Monday Bb Discussion Board by Saturday. TA live Office Hours, Friday 8-10 pm EST
Week of Dec 6- Dec 12		Projects Final discussion	Instructor live Office Hours, Sat-Mon 8-11 pm EST
December 14th		Final Exam	
December 15 th -17 th		Final days to submit projects	

Note: The course schedule and material to be covered are subject to change or revision as per the instructor's prerogative.

Exams dates may change due to many reasons. In case of any change a notice will be send to you in advance.

STUDENT EVALUATION

The course has 6 assignment activities totaling 600 points. Letter grades are awarded based on the total number of points achieved. Points are deducted for late submission of assignments.

Assignments	Points
Test # 1	75
Test # 2	75
Test # 3	75
Quizzes and Online Participation	100
Homework assignments	100
Project	75
Final Exam	100
Total Points	600

Class Points	Grade	Letter Grade
559-600 pts	94-100%	A
535-558 pts	90-93%	A-
517-534 pts	87-89%	B+
493-516 pts	83-86%	B
475-492 pts	80-82%	B-
457-474 pts	77-79%	C+
433-456 pts	73-76%	C
415-432 pts	70-72%	C-
397-414 pts	67-69%	D ⁺ (Undergrad Only)
373-396 pts	63-66%	D (Undergrad Only)
360-372 pts	60-62%	D ⁻ (Undergrad Only)
Less than 360 pts	<60%	F (Undergrad Only)

Notes: Grades lower than a "B" fall below the LTU graduate standard

Graduate Students are subject to Graduate Grade Scale. Final course grades below C- are recorded as F.

EDUCATIONAL GOALS

- Study the behavior of different structural systems and its concepts, stability and determinacy.
- Loading sources and distribution of lateral loads in linear frames and gravity loading in long spans, tensile, funicular and surface type structural systems.
- Detailed analysis and preliminary design of different structural members and systems.

LEARNING OBJECTIVES / OUTCOMES:

Furnishing the student with very good understanding of many types of structural systems and their behavior under both vertical and lateral loadings. When completing the course, students will be able to recognize the conditions presented in the problems of this course for the purpose of explanation of concepts and general principles for system selection and preliminary sizing in real life experience.

PREREQUISITE SKILLS

Math Analysis 2, Physics 2, Structures 1, 2 and 3.

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, all Modules, assignments, reading materials, narrated PowerPoint lectures, written lecture notes, chapter quizzes, links to Web resources, and discussion forums. You will submit all assignments via Blackboard, and are expected to participate regularly in discussion topics. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.

Each Module will be provided in sequence and will appear on First day of the week as indicated in the syllabus. HW assignment will be posted early on Wednesday and is due on following Monday. Bb Discussion Board will end late on Saturday.

Student/TA or Instructor Conversations – Students keep in touch with the instructor via e-mail messages, telephone conference calls, Fax, and phone conversations. Office hour meetings at campus are also possible and would be only by appointment. You can make use of the live office hours as indicated in the **COURSE SCHEDULE**.

Required Reading – Textbook chapters should be read according to the schedule outlined in the syllabus. Chapters will be discussed online. PowerPoint slides, case studies, application exercises, and practice quizzes. Student should make use of as many of these resources as needed to be successful.

Home Assignments – Are like traditional Homework. Questions to be answered and solved. The solutions must be neat and legible. Use graph paper or Engineer's computation pad. Indicate units in calculations and identify each step clearly in the process. The assignments will be on the Bb by early Wednesday and due on following Monday. No late submission will be accepted without legitimate excuse, but points are deducted for such late submission of assignments

CLASS POLICIES AND EXPECTATIONS

I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal. Here are some general expectations regarding this course:

- Each student has a LTU email account. If you wish to use a different email address for this course, please **change your email address in Blackboard under "Blackboard Tools", then "Personal Information"** and send an email to me so I can store your address in my email directory.
- Readings, discussion forum participation, and written assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.
- It is essential that all students actively contribute to the course objectives through their experiences and working knowledge.
- All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software. If you need to submit an assignment via email or any other means, contact the instructor in advance.
- Assignments must be completed to an adequate standard to obtain a passing grade. Requirements for each assignment are detailed in this syllabus.
- Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you.
- At midterm and at the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor, and I encourage you to participate in the evaluation process.

It is important for you as students to know what to expect from me as your instructor:

- I will be available to you via e-mail and phone, and will try to reply to your messages within 24 hours, if not sooner.
- I will be available before each exam date for live office hours.
- I will be available to you for face-to-face appointments as requested.

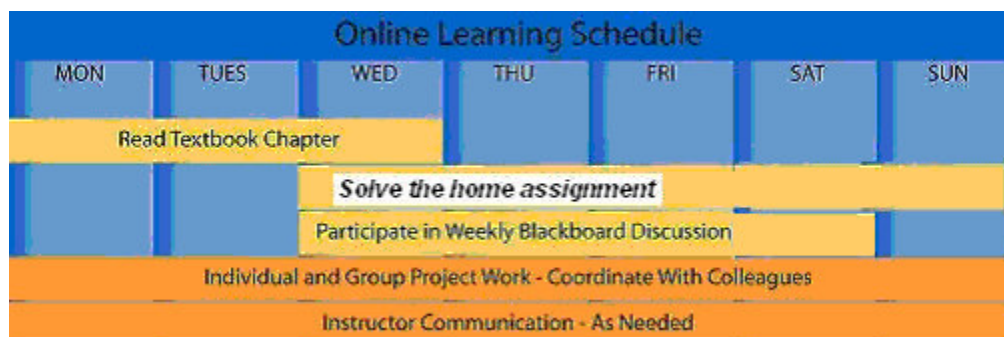
- I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
- I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
- I will return all assignments to you, and will include individualized comments and suggestions with each assignment.
- I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class.
- I will treat all members of the class fairly, and will do my best to accommodate individual learning styles and special needs.
- If any of these points need clarification, or when special circumstances arise that require my assistance, please contact me so that we can discuss the matter personally.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS

A three-credit course generally requires at least nine hours per week of time commitment. Here are some practical guidelines to help schedule your time commitments for this online course:

- A 14-week semester would require at least 126 hours of time commitment to successfully complete all readings, activities, assignments, and texts as described in this syllabus.
- You should reserve at least 6 hours per week to read the required textbook chapters and resources, participate in online discussions, review presentation materials, and work through online quizzes. This effort will total at least 84 hours over the course of the semester.
- You should organize your remaining time to roughly correspond with the point value of each major assignment. This means that you should plan to spend at least:
 - 8-9 hours preparing your case study review;
 - 24-40 hours working with your group on the three parts of your semester-long project;
 - 8-9 hours working on the various components of your reflective consolidation (final exam).

These guidelines may not reflect the actual amount of outside time that you – as a unique individual with your own learning style – will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively. The following graphic can be used to guide you in planning your weekly course work to remain on schedule:



Class Project:

Graduate Student Project (75 points): This is an individual assignment *a not team assignment*. Project lasts 6-7 weeks in duration, it is a case study documentation of a structural system. It is parallel to the lecture material but require outside research and use of computer analysis, or graphic studies to complete the project exercise as scheduled.

Undergraduate Student Project (75 points):: During the semester, there will be a project utilizing the use of the class material in real world architectural and engineering applications. The project should be worked on individually and professionally submitted as scheduled.

Quizzes and Online Participation (100 points)

Each student is expected to actively participate in online activities. Class participation is evaluated to a maximum of 100 points based on:

Up to 40 points – Reading the required text chapters and working through the online practice quizzes according to the class schedule; and

Up to 60 points – Actively participating in Blackboard discussion forums, responding to questions posted by the instructor, and interacting positively with other students.

SYLLABUS ADDENDA

Please see the LTU Online “Current Students” web site <http://www.ltu.edu/ltuonline/> for comprehensive information about Lawrence Tech’s academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included as syllabus requirements.

The LTU Online “Current Students” web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the LTU Online web site regarding the use of the SafeAssign product.