Department of Civil Engineering
University of Texas at Arlington

CE 5306/4348 Structural Steel Design
Course Syllabus

Instructor: Raad Azzawi,Ph.D,P.E/STR
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Profile:
https://mentis.uta.edu/explore/profile/raad-azzawi
Teaching Assistant: TBA

Office Hours: MW 12:00- 2:00 pm
(Quastions via email or by appointment)
Lecture TuTh 2:00 pm – 3:20 pm
NH112

Prerequisite: CE 3341 C or better.

Class Reference Material (highly recommended):

- Structural Steel Design by McCormac, 6th Edition
- Manual of steel Construction, 15th Edition, AISC , May be ordered at www.aiscstudentmanuals.org ; Coupon Code to receive student discount is TBA.
- Dr. Azzawi lecture notes: available on Blackboard.

Additional Optional Reference Material:

- AASHTO LRFD Specifications for Highway Bridges. Washington, D.C., 7th Ed., American Association of State Highway and Transportation Officials, 2016.
- International Building Code, 2015 Ed., International Code Council.

Course Content:

A design synthesis course for structural steel structures using Allowable Strength Design and Load Resistance Factor Design. Topics include tension members, compression members, flexural members and simple connections. Building codes, American Institute of Steel Construction (AISC) specs, material specs, test methods, and recommended practice documents. Prerequisite: Grade of C or better in CE 3341 and Admission to the CE Professional Program.

Tentative Course Outline:

Day	Date	Syllabus
Tu Th	Jan 15-17	Course Syllabus
TuTh	Jan 22-24	Introduction to Steel Structures, Structural Systems and Overview of Steel Building, AISC specifications.
TuTh	Jan 29	Design Methods (ASD and LRFD) Loads and Load Combinations
TuTh	Feb 05-07	Analysis and Design of Tension Members including connection elements subject to Tension
TuTh	Feb 12-14	Introduction and design of Compression Members Under Concentric Axial Loads
TuTh	Feb 19-21	Design of Axially Loaded Compression Members and Base Plates
TuTh	Feb 26	Design of Flexural Members (Beams)
Th	Mar 07	**Midterm I Exam**
TuTh	**Mar 11-15**	**Spring Break**
TuTh	Mar 19-21	Design of Beams – Miscellaneous Topics (Shear, Deflection)
Tu Th	Mar 26-28	Design of members under Bending and Axial Force
TuTh	Apr 02-04	Bolted Connections
Tu Th	Apr 09-11	Welded Connections
Tu	Apr 16	**Midterm II Exam**
TuTh	Apr 23-25	Floor Vibrations (if time allows)
Th	May 02	**Term Project Presentation**
	May	**Final Exam (Tuesday, May 7, 2 - 4:30 pm)**

- As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. Dr.Raad Azzawi

Student Learning Outcomes:

This course will focus on the following student educational outcomes:
An ability to apply knowledge of mathematics, science, and engineering TI
An ability to design a system, component, or process to meet desired needs TI
An ability to identify, formulate and solve engineering problems TI
An understanding of professional and ethical responsibility CI
The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context CI
A recognition of the need for, and an ability to engage in life-long learning CI
A knowledge of contemporary issues CI
An ability to use the techniques, skills and modern engineering tools necessary for engineering practice TI

Covered Implicitly (**C_I**): The outcome is implicitly covered
Covered Explicitly (**C_E**): The outcome is explicitly covered
Tested Implicitly (**T_I**): The outcome is covered and implicitly assessed for by one or more means (assignments, test questions, essay questions, presentation evaluations, lab reports, etc.)

Homework:

A number of relevant homework problems, grouped into one or more problem sets will be assigned on the class blackboard or given in class at the end of lecture. For homework assigned on blackboard, student

will be required to upload the assignments solution into blackboard before the due date. Late submission will NOT be accepted unless arrangement has been made in advance with the instructor.
For homework given in class, assignments will be collected in class at the beginning of a lecture in hard copy at the specified due date. Late Homework will NOT be accepted unless arrangement has been made in advance with the instructor. Homework are suggested to be in a standard format. This includes: (a) statement of the problem (with a sketch); (b) quantities with given values; (c) quantities to be found; and (d) solution of the problem.
Work MUST be done in pencil and must be neat and readable. Draw a box around the answer(s). DO NOT WRITE IN THE BACK OF THE PAGE

Make-up Exams Policy:
Makeup exams are given only in extreme circumstance; examples of extreme circumstances are serious illness of student (doctor's note required) or death in the family. I must be contacted before the exam if such a circumstances applies to you.

Grading:

Exam	Weighting of grades
Assignments	7.5%
Term Project	7.5%
Midterm Exam I	27.5%
Midterm Exam II	27.5%
Final exam	30%
Total weight	**100 %**

Final exam will not be returned, but may be reviewed by students.

The grade assigned to the student's numerical average will be as follows:

(a)	90 to 100 average	=	A
(b)	80 to 89.9 average	=	B
(c)	70 to 79.9 average	=	C
(d)	60 to 69.9 average	=	D
(e)	< 60 average	=	F

Distance learning students need to take the exams (mid-terms and final) in class, for a ceritain university authorized conditions when distance learning students required to take the exam off-compus; It is student responsibility to contact the distance learning office in UTA and register their testing centers at the beginning of the semester and coordinate with their testing center to schadule their exams. Electronic Devices/e-books are not allow in exams and the final exam is comprehensiv. All exams are open book, notes, and homework.

Policies:
In general, the class will be conducted in accordance with the policies given below. However, it is impossible to anticipate every possible circumstance. The instructor reserves the right to modify the given policies or to deviate from them in unforeseen or unusual circumstances. If there is a policy that you anticipate will affect you in a way that seems unfair, please bring it to the attention of the instructor before the end of the second week of class. After that, the reason for a student initiated change in policy must be compelling.

Dropping the Course:
Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. For Engineering students, added classes must be on the list approved by the academic advisor. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Academic Integrity:
It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."
The College of Engineering has a "Statement on Ethics, Professionalism, and Conduct for Engineering Students" which may be downloaded from www.uta.edu/engineering/coees.doc. Each student is responsible for understanding and acting in accordance with this document.

Grade Grievances: The university policy regarding "Student Grievance Procedures Related to Grades" is explained in item 6 at http://wweb.uta.edu/catalog/content/general/academic_regulations.aspx#10.

Electronic Communication Policy:
The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account**. Students are responsible for checking their MavMail regularly**. Information about activating and using MavMail is available at http://www.uta.edu/oit/email/. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

Student Support Services Available:
The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

Librarian to Contact: Sylvia George-Williams, sylvia@uta.edu, Science & Engineering Librarian.

Americans with Disabilities Act:
The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Emergency Exit Procedures:
Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at the end of the hallway. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.