

**CE 5315 – ADVANCED MECHANICS OF MATERIAL**  
**Course Syllabus**  
**Fall 2013**

**Instructor:** Seyed Mohammad Razavi  
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**Office Hours:** MW 3:00 pm – 5:00 pm  
or by appointment

**Lecture:** MWF 1:00 pm - 1:50 pm  
NH229

**Prerequisites:** Prerequisite: Grade of C or better in CE 2313;

**Required Textbook:** *Mechanics of Materials*, Advanced Mechanics of Materials, 6th ed, By A. P. Borresi and R. J. Schmidth, John Wiley & Sons, Inc.

**Course Content:** Analysis of stresses and strains at a point, stress-strain relationships, stresses due to various loading conditions, theories of failure, energy methods, shear center, unsymmetrical bending, curved beams, torsion in closed and open cell cross-sections, principles of plastic analysis, and buckling analysis.

**Homework:** will be assigned on a regular basis during the class time. Complete assignments must be turned in electronically in PDF format by the due date at <https://elearn.uta.edu>. Some assignments may require the use of software, which will be available on campus and can be used outside the class time.

Late homework will not be accepted except for medical or other similar hardships where (1) advanced arrangements are made with the instructor and (2) valid, written documentation is presented. In case of non-elective medical or other emergencies, valid, written documentation is required immediately upon return to school so that the homework may be submitted as close to the original date as possible. A student may have no more than two (2) homework assignments excused in this manner; additional missed homework assignments will result in a grade of zero. Other than circumstances described above, failure to turn in homework assignments at the scheduled time will constitute a grade of zero on the assignment.

**Make-up Examinations:** Makeup examinations are not given. If an examination is missed as a result of an illness or because of a University Authorized Absence, the weight of the missed examination will be added to the weight of the final examination when the class grade is determined. It is the responsibility of the student to provide acceptable, written documentation for absences that occur on the day of an examination. [http://web.uta.edu/catalog/content/general/academic\\_regulations.aspx#5](http://web.uta.edu/catalog/content/general/academic_regulations.aspx#5) in the UTA catalog at discusses University Authorized Absence. If arrangements are made well in advance, an examination can usually be taken before the scheduled time and a more lenient excuse policy is applied.

**Grading policy:**

<u>Weighting of grades</u>			<u>Final grades</u>
Homework	20%		A 90 - 100 %
Midterm I	25%	(October 7, 2013)	B 80 - 89.99 %
Midterm II	25%	(November 18, 2013)	C 70 - 79.99 %
Final exam	30%	(University Schedule)	D 60 - 69.99 %
Total weight	100 %		< 59.99 % F

**Attendance:** Regular and punctual attendance is required of students enrolled in this class. Absences may indirectly affect one's grade. The student is responsible for determining what was covered during missed classes.

**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.

**Drop Policy:** 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. 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. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

**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](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

**Student Support Services:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**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. 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.

**Course Schedule:**

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. –Seyed Mohammad Razavi

<i>Topics covered</i>	<i>Timetable</i>
<ul style="list-style-type: none"> <li>• Analysis of stresses and strains at a point</li> <li>• Stress-strain relationships</li> <li>• Stresses due to various loading conditions</li> <li>• Theories of failure</li> </ul>	August 22 – October 7
<ul style="list-style-type: none"> <li>• Energy methods</li> <li>• Unsymmetrical bending</li> <li>• Principles of plastic analysis</li> <li>• Torsion in closed and open cell cross-sections</li> </ul>	October 7 – November 18
<ul style="list-style-type: none"> <li>• Shear center</li> <li>• Buckling analysis.</li> </ul>	November 20– December 10