STRENGTH OF MATERIAL ENTC 3408.002  
Department of Engineering and Computing Sciences  
Spring 2017

A. COURSE INFORMATION  
Course Number/Section: ENTC 3408.001 (Lec.), ENTC-3408.201 (Lab.)  
Class Meeting Time: TR 11:00-12:15 pm (Lec.), MW 03:00-04:15 pm (Lab.)  
Class Location: BH-206 (Lec.), EN-118 (Lab.)  
Course Website: https://bb9.tamucc.edu/webapps/login

B. INSTRUCTOR INFORMATION  
Instructor: Mahdiar Hariri  
Office location: EN 207C  
Office hours: MW 4:15-5:15 pm, TR 12:15-1:15 pm, Friday 10:50-11:50 am  
Telephone: 319-930-7114  
e-mail: Mahdiar.Hariri@tamucc.edu  
Appointments: by email

C. COURSE DESCRIPTION  
Concepts in strength of materials, stress, strain; deformation under load, direct, shear, and stress concentrations, torsional shear stresses, shearing force and bending moment diagrams for beams, bending normal and shear stresses, deflection in beams and shafts.

D. PREREQUISITES AND COREQUISITES  
ENGR2325 and ENGR2322;

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES  
Applied Strength of Materials, Fifth edition by Robert L. Mott

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT  
Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below.

By the end of this course, students should be able to:  

1. describe basic concepts in strength of materials  
2. describe design properties of materials  
3. calculate and design for direct stress, deformation
4. calculate and design for torsional shear stress and torsional deformation
5. calculate and design for shearing forces and bending moments in beams
6. calculate centroids and moments of inertia of areas
7. calculate and design for stress due to bending
8. calculate and design for shearing stresses in beams
9. calculate and design for deflection of beams

G. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>40%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Lab report</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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H. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Concepts in Strength of Materials</td>
<td>1</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Design Properties of Materials</td>
<td>2</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Direct Stress, Deformation, and Design</td>
<td>3</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Torsional Shear Stress and Torsional Deformation</td>
<td>4</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Shearing Forces and Bending Moments in Beams</td>
<td>5</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Centroids and Moments of Inertia of Areas</td>
<td>6</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Stress Due to Bending</td>
<td>7</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Shearing Stresses in Beams</td>
<td>8</td>
<td>TBA in the class</td>
</tr>
<tr>
<td>Deflection of Beams</td>
<td>9</td>
<td>TBA in the class</td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section E.
I. COURSE POLICIES

Attendance/Tardiness
I expect all students to attend all classes and arrive on time. Late assignments will always be penalized and may be even completely rejected if the grading has started. If the assignment is e-mailed to me, the date of submission will be the date of your email, but you also need to submit the hard copy as soon as possible for grading.

Make-up Quizzes
There is one quiz per week from the last week’s homework. Make up quizzes are not going to be offered. You may only miss 3 quizzes during semester and receive partial credit for it by submitting homeworks. The rest of quizzes that you miss will receive zero as grade. Missed midterm or final exam will receive a zero.

Extra Credit
N/A

Cell Phone Use
Cell phones are not allowed in the class as well as in the laboratory. Students are required to turn them off before the class starts.

Food in Class
Not allowed

Participation
N/A

Others

J. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit
from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans 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 call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

**K. OTHER INFORMATION**

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.