COURSE SYLLABUS

Instructor
• Jessica Sharp
• 116 College Drive, Box #5138
  Hattiesburg, MS 39406
• Bobby Chain TEC Building, Office #238
• Fax: 601.266.5717
• Email: Jessica.Sharp@usm.edu
• Website: usm.blackboard.com

Office Hours
• Monday {10-12, 1-3}
• Wednesday {10-12, 1-3}
• Thursday {1-3}

Dates to Remember
• The last day to drop the class without Academic Penalty is August 27th.
• September 1st: Labor Day Holiday
• October 16th - 17th: Fall Break
• November 26th - 28th: Thanksgiving Holidays

Prerequisites
• MAT 101 (College Algebra) & MAT 103 (Trigonometry)

Credit Hours
• 3 Credit Hours

Course Description
• Study of two dimensional forces, force equilibrium, stresses, strains, beams, and columns.

Course Overview
• This course involves the study of force systems, stresses, strains, beams, and columns. This preparation is necessary for understanding how structures are designed and constructed according to necessary strength and durability requirements. Students will become familiar with Newton’s Laws, force components, addition of forces, equilibrium of force systems, trusses, pulleys, load tracing, wall and roof systems, and many types of stresses, strains, beams, and columns.
Course Outcome(s)


- Statics & Strength of Materials is the prerequisite course for Structural Design. Statics & Strength of Materials involves the study of force systems, stresses, strains, beams and columns. This preparation is necessary for understanding structural design and analysis. The textbook is excellent for an online course and explains the topics very well.

Student Learning Outcomes (Objectives)

- After completing this course the student should be able to:
  1. Calculate the components of a force
  2. Calculate the moments of forces
  3. Work problems involving the method of joints and sections
  4. Work problems involving pulleys
  5. Trace load paths on structures
  6. Calculate axial, shear, and bearing stresses
  7. Calculate axial strain using Hooke’s law
  8. Calculate thermal stresses
  9. Calculate centroids and moments of inertia
  10. Construct load, shear, and moment diagrams
  11. Calculate flexural stresses and beam deflections
  12. Analyze and design columns

Course Communication

- **The primary mode of communication will be via e-mail.** The instructor will check email regularly, and you should receive a response within one business day of successfully sending the e-mail. Proper email etiquette is expected; if appropriate collegiate-level language is not used, you will not receive a response. In the event that you experience technical problems or the instructor is unable to respond due to extenuating circumstances, you are encouraged to contact the School of Construction main office staff for assistance.

Required Text(s) and Readings


Class Procedures and Requirements

- Students are required to keep up with the assigned problems. The answers to these problems are in the back of the text and on Blackboard respectively. Students should continuously evaluate their performance on the basis of whether they are able to solve the problems correctly. Questions about the problems should be emailed.
- Blackboard should be checked often to obtain pertinent information and websites that illustrate the topics that are studied.
Evaluation Criteria
Practice Problems account for 30% of the final grade; three exams will be averaged and account for the remaining 70% of the final grade.

Practice Problems:
• A set of practice problems is available in Blackboard for each textbook chapter. Students should work ALL practice problems as indicated on Blackboard. These problems are the foundation for the exams, so you are expected to complete each of these problems. The practice problems will be submitted and graded on a Pass/Fail basis. You are encouraged to work together on these problems.
• All Practice Homework is to be delivered through Blackboard. The required format for homework assignments will be discussed as necessary in Blackboard. Instructions on how to upload assignments to Blackboard will also be provided.

Exams:
• You will take three open-book, open-notes exams. The times and dates of the exams are shown on the following class schedule and will be communicated to students through Blackboard. As with the graded homework, deadlines are deadlines, so no extensions will be provided.
• The three exams will be timed and must be proctored. For further proctoring information, see Blackboard and the "Proctored Exams" section of the syllabus.

No makeup exams are given.

Grading Scale
• 90 to 100 A – Excellent Work: Goes beyond the course requirements
  Criteria: Advance understanding of the subject, thoughtful analysis of the problem, clear communication of ideas, depth of understanding in connecting theory to practice, provocative, scholarly treatment of the subject, and creative/imaginative connections or examples.
• 80 to 89 B – Good Work: Fully achieves the requirements of the subject
  Criteria: Knowledge and depth of understanding of the subject, clear communication of ideas, examines the implications of theory to practice, analysis of the problem, and implementation of solutions.
• 70 to 79 C – Average Work: Substantially completes the course requirements
  Criteria: Knowledge of the subject, adequately communicates ideas but lacks insight, implications drawn are limited in scope and not connected, not attempt to go beyond the minimum requirements of the subject.
• 60 to 69 D – Inferior Work: Inadequate attempt in completing the requirements
  Criteria: Limited knowledge of the subject, inadequate communication of ideas, completes less than minimum requirements of the subject.
• 0 to 59 F – Failure: Noncompliance with basic requirements of the class
  Criteria: Blatant disregard for requirements.
Proctored Exams

- In this course, you will take three exams (Chapters 1-3 Exam, Chapters 4-6 Exam, and Chapters 7-10 Exam). These exams must be PROCTORED! In other words, you cannot simply log in to Blackboard and take these exams during the available dates. These exams are password protected, so you must take them at an approved proctoring site. Do not procrastinate in setting up a proctor for these exams!

- I will administer each exam at the Southern Miss Hattiesburg campus for those students who are nearby; however, if you are not near the USM campus, you will need to set up a time to take each exam. I will inform you of the time and date that I will be proctoring each exam as the course progresses. Also, if you cannot take the exam with me at the scheduled time, you can arrange for a proctor.

- If you choose to take your exam with a proctor, you will need to know the following:
  o For information and to complete the Application for Examination by Proctor, please visit the following website: http://www.usm.edu/lec/des/student_proctor.php.
  o There is a proctor located on the Southern Miss Hattiesburg and Southern Miss Gulf Coast campuses. You will need to complete and submit the application for the appropriate campus.
  o If you need a proctor outside of these locations, visit: http://www.usm.edu/lec/des/student_proctor.php website for suggestions.
  o Once you have verified a day and time with a proctor, you must submit An Application for Examination by Proctor. Please note that requests must be received within 7 days of the exam date in the fall & spring semesters and 5 days in the summer semester to avoid late fees. NO requests will be granted within 48 working hours of an exam date.
  o If you need to set up multiple proctor appointments for one course, you may include up to three (3) exam requests per Application for Examination by Proctor.
  o The fee for taking a proctored exam is $10 per exam regardless of where you take the exam. If you do not meet the deadline, you will be charged a $40 late fee in addition to the $10 fee.

Late Assignments or Projects

- All assignments and assessments are due at the time and date stated within Blackboard. When an assignment or exam is missed, the student is responsible for providing an explanation to faculty. A verified excuse must be obtained from The Office of Student Oriented Services in RC Cook Union 221. All assignments and assessments submitted after the precise due date and time without a verified excuse will receive an automatic 25 point deduction for late submission.
**Academic Honesty**
The following is from the USM Undergraduate Bulletin:

“When cheating is discovered, the faculty member may give the student an F on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the Dean of Students. In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct and may be grounds for probation, suspension, and/or expulsion. Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.”

**ADA Policy**
If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

**Address:**
The University of Southern Mississippi  
Office for Disability Accommodations  
118 College Drive # 8586  
Hattiesburg, MS 39406-0001

**Voice Telephone:** (601) 266-5024 or (228) 214-3232  
**Fax:** (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.
**Class Schedule:** This is a tentative schedule and is subject to change. If any changes are necessary, the new information will be announced via Blackboard.

<table>
<thead>
<tr>
<th>Week / Date</th>
<th>Topic</th>
<th>Homework / Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / Aug. 20</td>
<td>Course Introduction</td>
<td></td>
</tr>
<tr>
<td>2 / Aug. 25</td>
<td><strong>Chapter One:</strong> Introduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Review Ch. 1 (pp. 1-4)</em></td>
<td></td>
</tr>
<tr>
<td>3 / Sept. 2</td>
<td><strong>Chapter Two:</strong> Fundamentals of Statics</td>
<td>Practice Problems Due 9/12</td>
</tr>
<tr>
<td></td>
<td><em>Read / Study Ch. 2 (pp. 5-46)</em></td>
<td></td>
</tr>
<tr>
<td>4 / Sept. 8</td>
<td><strong>Chapter Two:</strong> Fundamentals of Statics (cont)</td>
<td>Practice Problems Due 9/19</td>
</tr>
<tr>
<td></td>
<td><em>Read / Study Ch. 2 (pp. 5-46)</em></td>
<td></td>
</tr>
<tr>
<td>5 / Sept. 15</td>
<td><strong>Chapter Three:</strong> Equilibrium of 2D systems</td>
<td>Practice Problems Due 9/19</td>
</tr>
<tr>
<td></td>
<td><em>Read / Study Ch. 3 (pp. 47-88)</em></td>
<td></td>
</tr>
<tr>
<td>6 / Sept. 22</td>
<td>Exam Week - no new content will be introduced</td>
<td>Chapters 1-3 Exam Available 9/22 - 9/26</td>
</tr>
<tr>
<td>7 / Sept. 29</td>
<td><strong>Chapter Four:</strong> Analysis of Selected Determinate Systems</td>
<td>Practice Problems Due 10/3</td>
</tr>
<tr>
<td></td>
<td><em>Read / Study Ch. 4 (pp. 89-149)</em></td>
<td></td>
</tr>
<tr>
<td>8 / Oct. 6</td>
<td><strong>Chapter Five:</strong> Load Tracing</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Read / Study Ch. 5 (pp. 151-190)</em></td>
<td></td>
</tr>
<tr>
<td>9 / Oct. 13</td>
<td><strong>Chapter Six:</strong> Stress, Strain, and Deformation</td>
<td>Practice Problems Due 10/19</td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 6 (pp. 191-238)</em></td>
<td></td>
</tr>
<tr>
<td>10 / Oct. 20</td>
<td>Exam Week - no new content will be introduced</td>
<td>Chapters 4-6 Exam Available 10/20 - 10/24</td>
</tr>
<tr>
<td>11 / Oct. 27</td>
<td><strong>Chapter Seven:</strong> Centroids and Cross-Sectional Properties of Structural Members</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 7 (pp. 239-268)</em></td>
<td></td>
</tr>
<tr>
<td>12 / Nov. 3</td>
<td><strong>Chapter Eight:</strong> Shear Forces and Bending Moments (1)</td>
<td>Practice Problems Due 11/7</td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 8 (pp. 269-296)</em></td>
<td></td>
</tr>
<tr>
<td>13 / Nov. 10</td>
<td><strong>Chapter Eight:</strong> Shear Forces and Bending Moments (2)</td>
<td>Practice Problems Due 11/14</td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 8 (pp. 269-296)</em></td>
<td></td>
</tr>
<tr>
<td>14 / Nov. 17</td>
<td><strong>Chapter Nine:</strong> Bending and Shear Stresses in Beams</td>
<td>Practice Problems Due 11/21</td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 9 (pp. 297-339)</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Chapter Ten:</strong> Column Analysis and Design</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Read/Study Ch. 10 (pp.341-392)</em></td>
<td></td>
</tr>
<tr>
<td>15 / Nov. 24</td>
<td>Thanksgiving holidays</td>
<td></td>
</tr>
<tr>
<td>16 / Dec. 1</td>
<td>Concept Review - Review all chapters for the final exam</td>
<td></td>
</tr>
<tr>
<td>17 / Dec. 8</td>
<td>Exam Week - no new content will be introduced</td>
<td>Chapters 7-10 Exam Available 12/8 - 12/11</td>
</tr>
</tbody>
</table>