

Southern Polytechnic State University
ENGR 3132 - Strength of Materials Lab
Course Syllabus –Fall 2012

Course Description

Experimental stress/strain analysis; Verification of theoretical models through testing; Deflection of beams; Column buckling.

Instructor

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Assistant Professor
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Office Hours: Monday : 11:00am – 12:00 pm
 Wednesday: 10:00 am – 12:00 pm
 Thursday: 3:00 pm – 5:00 pm
 Other times (By appointment – Walk in- Email me or Call me!!!)

Class Time and Location

Lecture: Tuesday: 2:30PM – 5:00PM
 Room: Q 135

Textbook (Required)

Mechanics of Materials, 8th Edition, Hibbeler, 2010
ISBN 10: 0-13-602230-8, ISBN 13: 978-0-13-602230-5

Prerequisite

ENGR 2214, MATH 2254

Learning Outcomes

The student, upon completion of this course, will be able to:

- 1- Perform standard mechanical testing procedures following the ASTM standards such as tensile test, torsion test, beam bending test, and buckling test.
- 2- Develop and utilize the stress strain-strain diagrams for determining the mechanical properties of various materials.
- 3- Utilize extensometer and strain gauge in stress/strain analysis
- 4- Utilize data acquisition hardware/software for mechanical testing
- 5- Prepare accurate and effective technical laboratory reports.

Course Outcome Measures and Assessment

Measures and assessment of the outcomes will be made by:

- 1- Periodic lab reports
- 2- One hour mid-term exam
- 3- One hour final exam.
- 4- Course and instructor evaluation at the end of the semester to provide student feedback on the quality of the course and effectiveness of the instructor.

Grading

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|-----------------|--------|
| 1. Midterm exam | 20.0 % |
| 2. Lab reports | 50.0 % |
| 3. Attendance | 10.0 % |
| 4. Final exam | 20.0 % |

The Grading Scale is as follows:

90.0 % and up = A
 77.0-89.0% = B
 64.0-76.0% = C
 52.0-63.0% = D
 0.0 - 51.0% = F

- Late reports will NOT be accepted for credit. Work turned in late may be evaluated to provide you with feedback, but will not be graded / given credit except in cases of documented emergency.

Class and lab Attendance Policy:

“ ... The instructor may reduce the course grade of any student who fails to meet the attendance requirements as set forth in the instructor’s attendance policy. Students should understand they are responsible for all course material covered and that they are responsible for the academic consequences of their absences.” (SPSU Student’s handbook)

Lab attendance policy

# of Absence	2	More than 2
Point Deduction	0	5 points per absence

ADA/504 Compliance

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the ATTIC counselor working with disabilities at (678) 915-7361 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

Disruptive Behavior and Academic Dishonesty

A faculty member reserves the right to remove any student from his or her course if the student’s behavior is of a disruptive nature or where there is evidence of academic dishonesty. In instances of disruptive behavior and/or academic dishonesty, the faculty member will discuss the circumstances with the student(s) before taking final action. In the event the student cannot be reached, he/she will be given the grade of "Incomplete" until such time as he/she can be reached. The student shall have the right of appeal of the faculty member’s decision first to the faculty member’s department head and then to the appropriate college or school dean and, if necessary, to the Vice President for Academic Affairs. Removal of a student from a course under this provision will result in the faculty member’s issuing a grade of "F". A grade of "F" issued under these circumstances shall not be superseded by a voluntary withdrawal and will be included in the student’s cumulative grade point average calculated for graduation purposes. (SPSU Student’s Handbook)

<u>WEEK</u>	<u>DATE</u>	<u>TOPIC</u>
1	8/20	Lab Report Presentations
2	8/27	LAB 1 - Tensile Test on Connections
3	9/03	No Lab
4	9/10	LAB 2 - Strain Gages & Poisson's Ratio Test
5	9/17	No lab
6	9/24	LAB 3 - Axial Tensile Test
7	10/1	LAB 4 - Torsion Test
8	10/8	Midterm Exam
9	10/15	LAB 5 - Pressure Vessel Test
10	10/22	LAB 6 - Fatigue Test
11	10/29	No Lab
12	11/5	LAB 7 - Beam Bending & Deflection Test
13	11/12	LAB 8 – Column Buckling Test
14	11/19	No Lab
15	11/26	Final Exam