
CE 2010 - 002: Statics (Fall 2014)

INSTRUCTOR

Dr. Qiushi Chen

320 Lowry Hall • 656-3330 • qiushi@clemson.edu

Research website: <http://www.clemson.edu/ces/geomechanics>

Office hours: **MW 2:00 – 3:30 pm**; other time by appointment

TEACHING ASSISTANT & SI LEADER

TA: Md Ariful Bhuiyan (mhbhuiy@clemson.edu)

Office hours: **Thursday 2:00 - 4:00pm, Lowry 139 Desk C**

SI: Jessie Thomas (jet2@g.clemson.edu)

CLASS TIME AND PLACE

11:15am - 12:05pm MWF Lowry Hall 201

REQUIRED TEXTBOOKS AND PREREQUISITE

R.C. Hibbeler, **Engineering Mechanics - Statics 13th edition**, Cengage Learning.

Online access to Mastering Engineering (www.masteringengineering.com)

Course ID: CE2010FALL2014CHEN

Prerequisite: PHYS122, MTHSC 2060 (or concurrent enrollment)

COURSE OBJECTIVES

To teach students the basic principles of the mechanics of rigid bodies; to analyze problems in a simple and logic manner; and to use free-body diagrams and vector methods in problem solving. By the end of this course, students will be able to

- Explain vectors and basic vector calculations and be able to express force and position vectors in Cartesian vector form
- Draw free-body diagram and solve equilibrium problems for a particle and a rigid body
- Explain the concept of moment and calculate moments and resultants forces for a given force system
- Analyze forces in members of a truss using methods of joints and sections
- Analyze forces in members of frames and machines composed of pin-connected members
- Calculate internal loadings in a structural member
- Explain the concept of dry friction and apply it to analyze equilibrium of rigid bodies subjected to dry friction
- Determine center of gravity and centroid for system of discrete particles and a body of arbitrary shape
- Determine the moment of inertia for an area

GRADING

Homework	10%
Quizzes and Class Participation*	10%
Exams 1, 2 & 3**	60%
Final Exam**	20%
Total	100%

A: 90-100; B: 80-89.99; C: 70-79.99; D: 60-69.99; F: 59.99 or less.

* Short quizzes will be given in class with no prior announcement. The purpose of the quiz is to review the key points and they are easy points to gain. **No make-up will be given.** However, the **lowest two quiz scores will not be counted towards the final score.** Please strive to be an active class participant - your grade will depend in part on your presence and participation in class.

** You are expected to take all exams at the time indicated in the syllabus or set in class. Missing exam will result a grade of zero for that exam. Exceptions or rescheduling requests can only be made on a very carefully considered individual basis, and only if you contact the instructor at least **1 week before** the exam.

HOMEWORK POLICY

- You will need access to **MateringEngineering** to do your homework online.
- Each homework problem is worth 10 points for correctness and will be graded for correctness by MateringEngineering. Additionally, each assignment will be awarded 2 points for hardcopy submission if you follow format shown in the textbook. TA will grade the hardcopy submission for format. To earn credit for format, hardcopies of homework must be submitted before the due time either **in class** or dropped off at **320 Lowry Hall**.
- Homework is **due on Friday (by 4pm)** of the week following the homework is assigned, unless otherwise stated in the assignment. Late penalty will be **20% each day**.
- If you are ill and are unable to do your homework, please contact the instructor **prior to** the homework is due.

CLASS ATTENDANCE AND POLICY

- In the event that the instructor is late for lecture or lab, you are free to leave after you have waited for 10 minutes.
- No Food or cellphone usage during class period.

EMAIL COMMUNICATIONS

- Please use your official Clemson email for communications regarding this course.
- To make sure your email won't be missed, please **start your email subject line with CE2010**.
- The very first time you email me, please use your full name, not just first name to avoid confusion.

TENTATIVE CLASS TOPICS

- Introduction (Chapter 1)
- Force Vectors (Chapter 2.1 - 2.9)
- Equilibrium of a Particle (Chapter 3.1 - 3.4)
- Force System Resultants (Chapter 4.1 - 4.9)
- Equilibrium of a Rigid Body (Chapter 5.1 - 5.7)
- Structural Analysis (Chapter 6.1 - 6.6)
- Internal Forces (Chapter 7.1)
- Friction (Chapter 8.1 - 8.3)
- Center of Gravity and Centroid (Chapter 9.1 - 9.2)
- Moments of Inertia (Chapter 10.1 - 10.5, 10.8)

FREE ASC TUTORING

Free, drop-in tutoring is available for this class through the Academic Success Center (ASC)! For details on policies and drop-in session information, please see the academic success center website

<http://www.clemson.edu/asc/tutoring/>

ACADEMIC INTEGRITY

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form. When in the opinion of a faculty member, there is evidence that a student has committed an act of academic dishonesty, the faculty member shall make a formal written charge of academic dishonesty including a description of the misconduct, to the Dean of the Graduate School. At the same time, the faculty member may, but is not required to, inform each involved student privately of the nature of the alleged charge.

STUDENTS WITH DISABILITIES

Students with disabilities who need accommodations should make an appointment with Dr. Arlene Stewart, Director of Disability Services, to discuss specific needs within the first month of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Student Disability Services is located in Suite 239 Academic Success Building (656-6848; sds-l@clemson.edu). Please be aware that accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

CLEMSON UNIVERSITY'S TITLE IX POLICY

Clemson University's Title IX (Sexual Harassment) policy is located at <http://www.clemson.edu/campus-life/campus-services/access/harassment.html>
Jerry Knighton serves as Clemson's Title IX coordinator.

IMPORTANT DATES

A copy of academic calendar with important dates is available at http://www.registrar.clemson.edu/html/acad_cal.htm

The exams are scheduled as

- Exam 1: **September 23rd (Tuesday), 6:30pm - 8:30pm, Lowry 217**
- Exam 2: **October 23rd (Thursday), 6:30pm - 8:30pm, Lowry 217**
- Exam 3: **November 18th (Tuesday), 6:30pm - 8:30pm, Lowry 100**
- Final Exam: **December 9th (Tuesday), 8:00am - 10:00am, Lowry 201**

FINAL REMARKS

Statics is an extremely important course and it sets the foundation for any future engineering courses. Please strive to be excellent in this course. You are always welcome to discuss with me your suggestions or concerns that will make this class better. Good luck to all of you in this class!