Statics – Fall 2019
Course #: MEC K114, CRN 30192

Instructor: Dr. Dhyaa Kafagy
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Class Hours: Mon & Wed 3:00-4:15PM Room D228

Office Hours:

M	2:00 – 3:00PM
T	2:30 – 3:30PM
W	2:00 – 3:00PM
R	By Appointment

Required Text: Hibbeler, R.C., *Statics & Mechanics of Materials* 5th Edition, Pearson, 2017, ISBN: 9780134382593

Course Description:

This course helps students develop the ability to analyze problems using the basic principles of static systems in order to provide foundation for stress analysis. The forces on structures in equilibrium and concepts of centroids, center of gravity, and moments of inertia are studied. The concept of stress and strain in axial torsional and bending loading is also introduced.

Prerequisites: MAT*K172 and PHY*114. Co-requisite: MAT*186

Course Topics:

1. Vectors
2. Equilibrium
3. Restraints
4. Structural Analysis
5. Internal Forces
6. Friction
7. Centroids
8. Moments of Inertia

Course Objectives:

- Demonstrate the ability to solve problems relate to Statics in an accurate, organized and neat manner
- Demonstrate an understanding of the concept of a result force for systems of forces and proficiency in performing calculations
- Demonstrate an understanding of the concept and calculations of the components of a force
- Understand the principle moments and solve for the moment caused by a force acting on a rigid body
- Calculate the reaction forces at the supports of a rigid body at rest
- Display competence in the determination of the force in members of a truss using the Method of Joints and Methods of Sections
- Understand the principles and calculate the centroid and moment of inertia of a composite area

Disabilities Statement: Students with disabilities are guaranteed reasonable accommodation under the provisions of the Americans with Disabilities Act of 1992. Disclosure of a disability must be voluntary and initiated by the student. For further assistance, please contact Matt Liscum in the Office of Disability Services at 860.215.9265 or mliscum@threerivers.edu. Please note that an instructor cannot provide disability accommodations until a student provides the necessary paperwork from the college's Office of Disability Services.

Academic Integrity: Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to succeed in the classroom and beyond. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. In this class and in the course of your academic career, present only your own best work; clearly document the sources of the material you use from others; and act at all times with honor.

Plagiarism: Plagiarism is the unacknowledged use of another person's work or ideas in your writing. It is often known as copying word-for-word. However, even paraphrasing without acknowledgement or using the ideas of peers garnered from class discussion or a study group is considered plagiarism. Whether it is conscious or unconscious, plagiarism is a serious academic offense. Your writing for this course, and any other course at TRCC, is expected to be original, and the product of your own thinking. A student who has plagiarized will receive a ZERO on his/her assignment and may be reported to the Academic Dean and/or Student Services Dean for disciplinary action.

Technology Statement: The use of cell phones or other technological devices is not permitted during class time, unless deemed appropriate by the instructor.

Electronic Learning Portfolios: All students are required to maintain an online learning portfolio in Digication that uses the college template. Through this electronic tool students will have the opportunity to monitor their own growth in college-wide learning. The student will keep his/her learning portfolio and may continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. Student work reviewed for assessment purposes will not include names and all student work will remain private and anonymous for college improvement purposes. Students will have the ability to integrate learning from the classroom, college, and life in general, which will provide additional learning opportunities. If desired, students will have the option to create multiple portfolios.

Email: Correspondence by email is considered a method of formal communication. Emailing an instructor is not the same as emailing or texting a friend. Please use a proper salutation, complete sentences, punctuation, proper spelling and identify yourself by name in the body of the email. **Students must use their college issued email account. College issued email is the official mode of communication used by the college to contact students.**

Class Cancellation: To determine if the college is closed, please visit the TRCC webpage at http://www.trcc.commnet.edu/ and/or sign-up for notification through MyCommNet ALERT.

College Withdrawal Policy: Course withdrawals are accepted up until the week before classes end. Withdrawal forms are available online or at the Registrar's office. The withdrawal does not have to be signed by the instructor but it is strongly advised that you speak with your instructor before withdrawing. If necessary, you can withdraw over the phone by calling the Registrar's Office at 860.215.9064. Emails and faxes are also accepted. If you are receiving financial aid, it is strongly recommended that you contact the Financial Aid Office before withdrawing. Withdrawal may affect your financial aid for current and/or future semester(s). It is your responsibility to confirm that the withdrawal has been received.

The last day to withdraw from the Fall 2018 semester is December 9, 2018

Grade Computation:

The following is a breakdown of the final grade:

Attendance/Class Participation	10%.
Homework	20%
Quizzes	20%
Mid Term Exam	25%
Final Exam	25%
TOTAL	**100%**

Grading Distribution:

A	94-100	C	73-76
A-	90-93	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Homework: Homework is due at the beginning of class on the due date. **Late homework will not be accepted**. The (2) lowest grades will be dropped to accommodate unexpected absences. If homework is missed, it is the responsibility of the student to complete assignment for concept mastery.

Quizzes: Quizzes will be administered in-class during the semester. There will be no make-up for missed quizzes. Each quiz will cover material from the text, lectures, homework, in-class problems and examples. 15-30 minutes of class time will be devoted to the quiz. Quizzes that are missed for any reason cannot be made up unless prior arrangement is made with the instructor.

Exams: There will be (2) exams administered during the semester, a midterm exam and a final exam. Each exam will cover materials from the text, lectures, homework, in-class problems and examples. Exams that are missed for any reason cannot be made up unless prior arrangement is made with the instructor.

Class Schedule (subject to change at instructor's discretion):

Fall 2019 - MEC 114 - Course Outline				
Week #	**Date**	**Topic**	**Homework**	**Course Reading**
1	8/29	General Principles		Ch 1
2	~~9/3~~ - 9/5	Center of Gravity, Centroids, Moment of Inertia	HW#1	Ch 6
3	9/10 - 9/12	Force Vectors		Ch 2.1 -2.4
4	9/17 - 9/19	Force System Resultants	HW#2	Ch 3.1 - 3.6
5	9/24 - 9/26	Force System Resultants		Ch 3.1 - 3.6
6	10/1 - 10/3	Force System Resultants/ Equilibrium of a Body	HW#3	Ch 4.1 - 4.5
7	10/8 - 10/10	Equilibrium of a Body		Ch 4.1 - 4.5
8	10/15 - 10/17	Equilibrium of a Body	HW#4	Ch 4.1 - 4.5
9	10/22 - 10/24	Review/Mid Term		
10	10/29 - 10/31	Structural Analysis		Ch 5.1 - 5.4
11	11/5 - 11/7	Structural Analysis	HW#5	Ch 5.1 - 5.4
12	11/12 - 11/14	Structural Analysis		Ch 5.1 - 5.4
13	11/19 - 11/21	Structural Analysis	HW#6	Ch 5.1 - 5.4
14	11/26 - 11/28	Center of Gravity, Centroids, Moment of Inertia		Ch 6
16	12/10 - 12/12	Review/Final Term		