Three Rivers
COMMUNITY COLLEGE

Statics – MEC*K114
Fall 2016 Syllabus
Room D208 Wednesday, 6:00 – 8:45 pm

Instructor: Prof. Wanda Short

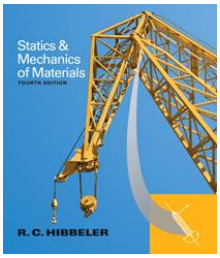
Contact Methods: **Blackboard Learn Messaging (preferred)**
or wshort@threerivers.edu (emergency only)

Online Discussions: Blackboard Learn Discussions
Available for all learning topics – this is the primary class communication method

Course Description:

This course helps students develop the ability to analyze problems using the basic principles of static systems in order to provide a foundation for stress analysis. The forces on structures in equilibrium and concepts of centroids, center of gravity, and moment of inertia are studied. The concept of stress and strain in axial torsional and bending loading is also introduced.
Prerequisites: MAT* K172 and PHY*K114. Corequisite*:* MAT* K186.

Text Book:



Hibbeler, R.C., *Statics & Mechanics of Materials* 4th Edition, Pearson/Prentice Hall, 2014, ISBN: 9780133451603

Course Topics:

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

Course Objectives:

- Demonstrate the ability to solve problems related to Statics in an accurate, organized and neat manner,
- Demonstrate an understanding of the concept of a resultant 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 of 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 the Method of Sections,
- Understand the principle and calculate the centroid and moment of inertia of a composite area.

Course Evaluation:

Homework and three (3) Exams will be given during the semester with the following weighting:

20%	Homework
20%	Quizzes
60%	3 Exams
100%	Total

Course Grades:

Grades will be assigned according to the following scale:

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

Homework: Submit homework at the beginning of class on due date. **Late homework will not be accepted.** The two (2) lowest homework grades will be dropped to accommodate unexpected absences. If homework is missed, it is the responsibility of the student to completed missed assignment for concept mastery. If you are unable to attend class, you must submit your homework via Blackboard on or before the due date. Assignments will be graded on professionalism, accuracy, style and completeness. Homework will be posted in Blackboard Learn and distributed in class.

Quizzes: Quizzes will be administered in-class during the semester. There will be no make-up for missed quizzes. The two (2) lowest quiz grades will be dropped to accommodate unexpected absences. Each quiz will cover material from the text, lectures, homework, in-class problems, and example problems. 15 – 30 minutes of class will devoted to each quiz.

Exams: Three (3) exams will be administered during the semester. Each exam will cover material from the text, lectures, homework, in-class problems, and example problems. Exams missed must be completed prior to the subsequent class. The entire class period will be devoted to each exam.

Class Participation and Discussion: This course is designed in such a way that a student should get more from the in-class activities than from the textbook alone. If you miss a class, you are responsible for obtaining notes, handouts and assignments. Course material including syllabus, course content, lectures, and homework are located in Blackboard Learn. Attendance will be taken at each class meeting. If you cannot attend a lecture due to extraordinary events, notify the instructor in advance of the class you will miss.

Online Communication: The primary method of online communication (between all students and the instructor) for this class will be **forums** in **discussion boards**. Any private communications (between one student and the instructor) should use the **Blackboard messaging** capability called **"Messages".** The Blackboard email tool will not be used in this class. Email outside of Blackboard should only be used for emergencies. You may use my email address of: wshort@threerivers.edu for any such emergencies.

Classroom Policies:

- Use of **cell phones are Not Permitted** during class
- Language and behavior that is disrespectful, or disruptive, to others is unacceptable. Students should refer to their Student Handbook for examples of such behavior as well as additional school policies.

Instructor Assistance: Seeking help from the instructor outside of class is encouraged if you are having difficulty understanding course material. You are encouraged to seek assistance during class as well as during office hours and other times by appointment.

Course Withdrawal: A student who simply stops submitting work will receive the grade earned on that work, usually a failing grade. To receive a "W" grade instead, apply for a withdrawal through the registrar's office by December 9th. A "W" will be entered on the student transcript but will not be included in the calculation of the GPA.

Academic Integrity: Academic integrity is essential to a useful education. Failure to act with academic integrity severely limits a person's ability to success 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.

Students are expected to do their own work in this class. Working together to better understand the material is acceptable. Submitting duplicate work will adversely affect the assignment grade. Actively participating in class discussions and discussion boards both to ask and answer questions is expected of all students. Posting of detailed instructions for "how to" responses to questions is encouraged but posting of a complete solution is not.

Disabilities Statement: If you are a student with a disability and believe you will need accommodations for this class, you must contact the TRCC's Disabilities Counseling. To avoid any delay in the receipt of accommodations, you should contact the counselor as soon as possible. Please note that the instructor cannot provide accommodations based upon disability until the instructor has received an accommodation letter from the Disabilities Counselor.

Digication Requirements: All students are required to maintain an online learning portfolio using a TRCC designed template. Through this electronic tool, students can see their own growth in college-wide learning. The student can keep and continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select random works to improve the college experience for all. No names will be attached to the assessment work; it will remain private and anonymous for college improvement purposes. In class outlines, students will find recommended assignments which support various college-wide learning abilities. The student will have a tool which can integrate their learning from the classroom, school, and life and allow for another opportunity of learning at TRCC! Students will be able to make multiple portfolios.

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Statics – MEC*K114 – Fall 2016 – Course Outline

Date		In-Class Quizzes	Homework	Topic	Course Reading
Aug 31	1			General Principles	Chapter 1
Sep 07	2	Quiz 1	HW #1 due	Force Vectors	Chapter 2
Sep 14	3	Quiz 2	HW #2 due	Force System Resultants	Chapter 3
Sep 21	4	Quiz 3	HW #3 due	Exam Review	
Sep 28	5	**Exam #1: Chapters 1, 2 & 3**			
Oct 05	6			Equilibrium of a Rigid Body	Chapter 4
Oct 12	7	Quiz 4	HW #4 due	Equilibrium of a Rigid Body	Chapter 4
Oct 19	8	Quiz 5	HW #5 due	Equilibrium of a Rigid Body	Chapter 4
Oct 26	9	Quiz 6	HW #6 due	Exam Review	
Nov 02	10	**Exam #2: Chapter 4**			
Nov 09	11			Structural Analysis	Chapter 5
Nov 16	12	Quiz 7	HW #7 due	Structural Analysis	Chapter 5
Nov 23 – No Classes – College Open					
Nov 30	13	Quiz 8	HW #8 due	Center of Gravity, Centroid, and Moment of Inertia	Chapter 6
Dec 07	14	Quiz 9	HW #9 due	Center of Gravity, Centroid, and Moment of Inertia	Chapter 6
				Exam Review	
Dec 14	15	**Exam #3: Chapters 5 & 6**			

*** This course outline is subject to change as conditions warrant.**

*** Quizzes & Exams: Closed Book. Calculator and one (1) page of notes, 8.5x11 double-sided permitted.**