Statics – MEC*K114 Spring Syllabus
Room D228, Wednesdays, 6:30 – 9:15 PM

Instructor:	Wanda Short
Office:	C128
Contact Methods:	**Blackboard Learn Messaging (preferred)**
	wshort@threerivers.edu (emergency only) for private (one-to-one) communications
Telephone:	(860) 215-9473 office
Office Hours:	Wednesdays 5:00 – 6:00 pm and Thursdays 3:00 – 5:00 pm
	Other Dates/Times by Appointment
Online Discussions:	Available via Blackboard Learn and WebEx

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.

Text Book:

Hibbeler, R.C., *Engineering Mechanics, Statics*, 13th Edition, Pearson/Prentice Hall, ISBN-10: 0132915545, ISBN-13: 9780132915540

Course Topics:
1. Vectors
2. Equilibrium
3. Restraints
4. Structural Analysis
5. Internal Forces
6. Friction
7. Centroids

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,
- Understand the principle of transmissibility and demonstrate the use of the principle of transmissibility to solve for reaction or for forces causing stress in members of a truss,
- 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,
- Evidence of expertise in locating centroid and the center of gravity for rigid bodies at rest,
- Demonstrate proficiency in determination of moment of inertia or radius of gyration of a composite area and proficiency in their application in beam analysis.

Course Evaluation:

Homework, In-class Assignments, Quizzes, a Mid-term and a Final Exam will be given during the semester.

> ➢ 20%   Homework
> ➢ 20%   Quizzes
> ➢ 30%   Mid-Term Exam
> ➢ 30%   Final Exam
>
> 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: Homework is due at the beginning of class on the date indicated and will be corrected and graded the same day. Late homework will not be accepted for any reason. Homework will be graded in-class on the date in which it is due. The lowest two (2) homework grades will be dropped to accommodate unexpected absences. If you are unable to attend class, please arrange with instructor the submittal of homework on or before the due date. Assignments will be graded on professionalism, accuracy, style and completeness. The details for each assignment, including work to be completed and the due date will be posted in Blackboard Learn and distributed in class.

Quizzes and Exams: Quizzes and exams will be administered during the semester per the attached course outline. Each exam/quiz will cover material from the text, lectures, homework, in-class problems, and example problems. Make-up of Exams/Quizzes are allowed only if prior arrangements are made with the instructor. Approximately 30 minutes of the class meeting will be devoted for each quiz. The entire class will be devoted to the mid-term and final exams.

Class Participation and Discussion: Each student is expected to attend every class. 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, notes and is 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. Unless special arrangements have been made with the instructor in advance, the due date for assignments and quizzes will not change.

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**, pagers, texting, surfing the Internet or playing computer games **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 May 11th. A "W" will be entered on the student transcript but will not be included in the calculation of the GPA. An "N" (implicit withdrawal) may be entered for a student that stops submitting work before 60% of the class is completed.

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.

Spring 2015 – Statics, MEC*K114 – Course Outline				
Date	**Class #**	**Homework & Quiz Schedule**	**Topic**	**Course Reading**
1/28	1	No Class due to Inclement Weather		
2/4	2		General Principles Force Vectors	Chapter 1 Chapter 2
2/11	3	HW #1 due	Equilibrium of a Particle	Chapter 3
2/18	4	HW #2 due *Quiz #1 (similar to HW #1)*	Force System Resultants	Chapter 4
2/25	5	HW #3 due *Quiz #2 (similar to HW #2)*	Equilibrium of a Rigid Body	Chapter 5
3/4	6	HW #4 due *Quiz #3 (similar to HW #3)*	Equilibrium of a Rigid Body	Chapter 5
3/11	7	HW #5 due *Quiz #4 (similar to HW #4)*	Chapters 1 – 5 Review	
3/18		Spring Break		
3/25	**8**	**Mid-Term**	**Covering Chapters 1 - 5** [Chapter 5 covers Sections 5.1-5.3]	
4/1	9	HW #6 due	Internal Forces	Chapter 7
4/8	10	HW #7 due *Quiz #5 (similar to HW #6)*		
4/15	11	HW #8 due *Quiz #6 (similar to HW #7)*	Structural Analysis	Chapter 6
4/22	12	HW #9 due *Quiz #7 (similar to HW #8)*	Friction Center of Gravity and Centroid	Chapter 8 Chapter 9
4/29	13	HW #10 due *Quiz #8 (similar to HW #9)*	Center of Gravity and Centroid Moments of Inertia	Chapter 9 Chapter 10
5/6	14	HW #11 due	Moments of Inertia Chapters 6 – 10 Review	Chapter 10
5/13	**15**	**Final Exam**	**Covering Chapters 5 – 10**	

*** This course outline is subject to change as conditions warrant.
***Quizzes: Closed Book and Closed Notes. Textbook notes provided by instructor.
*** Exams: Closed Book. You are permitted to bring a calculator and one (1) page of notes, 8.5x11 double-sided.
      Textbook notes provided by instructor