

Spring 2015 Syllabus [Revised 3/26/2015]
Solid Modeling I Lecture/Lab – MEC*K150/151
Room E116, Tuesday/Thursday 10:00 – 12:06 p.m.

Instructor: Wanda Short
Office: C128
Contact Methods: **Blackboard Learn Messaging (preferred)**
or wshort@trcc.comnet.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

Required Textbook and Materials:



- SolidWorks 2014 Part I - Basic Tools
Parts, Assemblies and Drawings**
Paul Tran CSWE, CSWI, Published December 20, 2013
ISBN: 978-1-58503-853-4
- Storage Media: Flash Drive**
- Headphones or Earbuds to listen to tutorials** when needed

Course Description:

This lecture/laboratory course utilizes SolidWorks software in a PC environment. This course is designed to expand and enhance the student's ability to combine and apply mechanical design principles with computer design techniques and capabilities. This course teaches the basic concepts of orthographic projection, isometric, and oblique drawings and basic drafting terminology. A component of this course will focus on descriptive geometry which will nurture the visualization skills of students by identifying points, planes, and perpendiculars in various perspectives. Introducing the mechanical design software SolidWorks, this course begins to examine the basic functionality of drawing automation.

Learning Outcomes and Objectives:

The student will be able to

1. Use basic and advanced features of current CAD software.
2. Understand how CAD technology can be leveraged in the design process
3. Design a part or assembly of parts using Computer-Aided Design software.
4. Use parametric modeling techniques to reflect engineering requirements.
5. Apply top-down design principles to model a design.
6. Use motion and interference checking to ensure that parts will not interfere throughout their complete range of motion.
7. Use CAD software collaboratively when designing on a team.
8. Make appropriate selection of CAD functionality to use as tools in the design process.
9. Communicate effectively the geometry and intent of design features.

Course Evaluation: The course will consist of a lecture and a lab. Both the lecture and lab will consist of lectures, assignments, exams, and a capstone project.

Lecture Course Evaluation:

Lecture Course evaluation will be based on weekly online assignments and exams. The final grade will be determined as follows:

➤ 40%	Lab Assignments
➤ 60%	Lecture Exams
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100%	Total

Lab Course Evaluation:

Lab Course evaluation will be based on assignments, exams and a capstone project. All coursework should be saved to your FLASH DRIVE and submitted via Blackboard Learn on the due date. Students are responsible for backing-up files on a reliable media for retrieval in case of a lost/damage flash drive. Details of coursework will be posted on Blackboard Learn.

➤ 70%	Lab Assignments
➤ 30%	Lab Capstone Project & Presentation
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100%	Total

Assignments: Lab assignments will be distributed on a weekly basis and should be submitted on or before the due date. Two percent (2%) will be deducted from grade per assignment for each day submitted late. The details for each assignment and the due date will be posted in Blackboard Learn and distributed in-class.

Exams: Exams will cover material relative to the comprehension of SolidWorks applications as given in the text, handouts, assignments and lectures. Exams will be open book and open notes composed of developing models using SolidWorks. Make-up exam must be completed prior to subsequent class with instructor’s permission.

Lab Capstone Project & Presentation: To be determined in collaboration with instructor.

Grading Policy: 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

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 materials including syllabus, lectures, assignments and notes 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. Unless special arrangements have been made with the instructor in advance, the due date for coursework will remain as indicated.

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@trcc.commnet.edu for any such emergencies

Digication: All students are required to maintain a learning portfolio in Digication that uses the (Three Rivers) College Template. All students are required to maintain a learning portfolio in Digication that uses the (Three Rivers) College Template.

Classroom Policies: Use of **cell phones**, 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. Beverages are not permitted at your computer workstation.

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

Students with Disabilities: If you are a student with a disability and believe you will need support services and/or accommodations for this class, please contact the Disabilities Support Services at TRCC. 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 – MEC*K150/151– Course Outline				
Week #	Date	Lab Homework	Assignment Topic	Text Reading
1	Thu 1/22		Introduction	
	Tue 1/27		System Options; Document Templates; Basic Solid Modeling – Extrude Options	Chapter 1, 2 & 3
2	Thu 1/29	Lab HW #1 due	Getting Started – Parts Project	Chapter 3
	Tue 2/3	Lab HW #2 due	Basic Solid Modeling – Extrude and Revolve	Chapter 4
3	Tue 2/10	Lab HW #3 due	Sketch Entities and Tools	Chapter 4 & Handout
	Thu 2/12	Lab HW #4 due	Features & Revolved Parts	Chapter 5
4	Tue 2/17	Lab HW #5 due	Features	Handout
	Thu 2/19	Lab HW #6 due	Rib & Shell Features	Chapter 6
5	Tue 2/24	Lab HW #7 due	Linear, Circular and Curve Driven Patterns	Chapter 7
	Thu 2/26	Lab HW #8 due	Part Configurations	Chapter 8
6	Tue 3/3	Lab HW #9 due	Assemblies	Handout
	Thu 3/5	Lab HW #10 due		
7	Tue 3/10	Lecture Exam #1: Chapters 1 – 8 and Homework #1 – #8		
	Thu 3/12		Bottom Up Assembly	Chapter 10
	Tue 3/17 Thu 3/19	Spring Break		
8	Tue 3/24	Lab HW #11 due	Using Advanced Mates	Chapter 11
	Thu 3/26	Lab HW #12 due	Layout Assembly	Chapter 12
9	Tue 3/31	Lab HW #13 due	Working with Multibody Parts	Chapter 13
	Thu 4/2	Lab HW #14 due	Drawing Preparations Assembly Drawings – Links Assembly	Chapter 14 Chapter 15
10	Tue 4/7	Lecture Exam #2: Chapters 10 – 13 and Homework #9 – #13		
	Thu 4/9	Lab HW #15 due	Orthographic Views	Handout
11	Tue 4/14	Lab HW #16 due	Drawing Views	Chapter 16
	Thu 4/16	Lab HW #17 due	Dimensioning	Handout
12	Tue 4/21	Lab HW #18 due	Detailing	Chapter 17
	Thu 4/23	Lab HW #19 due	Modeling Threads and Sheet Metal Drawings	Chapters 9 and 18
13	Tue 4/28	Lab HW #20 due	Configurations and Part – Design Tables	Chapters 19 and 20
	Thu 4/30	Lab HW #21 due		
14	Tue 5/5	Lecture Exam #3: Chapters 9, 14 – 20 and Homework #14 – #21		
	Thu 5/7			
15	Tue 5/12	Capstone Project & Presentation		
	Thu 5/14			