



## Fall 2018 Syllabus

### Basic Parametric Modeling with Solidworks Lecture/Lab – CAD-K141

Room E116, Tuesdays 5:30 – 9:50 p.m.

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**Instructor:** Bill Derry  
**Contact Method:** email [wderry@region18.org](mailto:wderry@region18.org)

**Office Hours:** by Appointment

#### **Required Textbook and Materials:**

- **SolidWorks 2018 Basic Tools  
Getting Started with Parts, Assemblies and Drawings  
Paul Tran CSWE, CSWI**
- ISBN: 978-1-63057-001-9
- **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 basics of solid modeling including the creation of parts, assemblies and working drawings.

#### **Learning Outcomes and Objectives:**

The student will be able to

1. Use basic and advanced features of Solidworks 2018 CAD software.
2. Understand how CAD technology can be leveraged in the design process
3. Design parts, assemblies and drawing.
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 project.

**Course Evaluation:**

Course evaluation will be based on assignments, exams and a final project.

All coursework should be saved to your FLASH DRIVE and submitted 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.

The final grade will be determined as follows:

- 40% Assignments
  - 40% Exams (weekly quizzes) And CSWA exam
  - 20% Final Project
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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. Five percent (5%) will be deducted from grade per assignment for each week submitted late.

**Exams:** Exams will cover material relative to the comprehension of SolidWorks applications as given in the text, handouts, assignments, videos 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 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. 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.

**Communication:** The primary method of online communication (between all students and the instructor) for this class will be my email address: [wderry@region18.org](mailto:wderry@region18.org).

**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.

**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 other times by appointment. On most days I will be available for 45min. before the start of class.

**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 11<sup>th</sup>. 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 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.

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.

**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.

<b>Fall 2018 – MEC*K150/151– Course Outline</b>				
<b>Week #</b>	<b>Date</b>	<b>Lab Homework</b>	<b>Assignment Topics</b>	<b>Text Reading</b>
1	8/28		Introduction, SolidWorks Menus, System Options & Document Templates Basic Solid Modeling – Extrude	Chapters 1, 2 & 3
2	9/4	Exam 1 CH3 Due	Basic Solid Modeling – Extrude and Revolve. Getting Started – Parts Project.	Chapters 3 & 4
3	9/11	Exam 2 CH4 Due	Basic Drawings and Dimensioning	MySolidworks
4	9/18	Exam 3 Drawing Due	Revolved Parts & Rib & Shell Features	Chapters 5 & 6
5	9/25	Exam 4 CH 5&6 Due	Linear, Circular and Curve Driven Patterns & Part Configurations	Chapters 7 & 8
6	10/2	Exam 5 CH 7&8 Due	Threads & Bottom Up Assembly	Chapters 9 & 10
7	10/9	Exam 6 CH 9&10 Due	Mates & Layout Assembly	Chapters 11 & 12
	10/16	No Class	Reading Day No Class	
8	10/23	Exam 7 CH 11&12 Due	Sketch Pictures & Drawing Preparations	Chapters 13 & 14
9	10/30	Exam 8 CH 13&14 Due	Assembly Drawings & Drawing Views	Chapters 15 & 16
10	11/6	Exam 9 CH 15&16 Due	Detailing & Sheet Metal Drawings	Chapters 17 & 18
11	11/13	Exam 10 CH17&18Due	Configurations and Design Tables	Chapters 19 & 20
12	11/20	Exam 11 CH 19&20 Due	CSWA Practice	Chapter 21
13	11/27	CH21 Due	Work on Final Project	
14	12/4		Work on Final Project	
15	12/11		Final Project Due/ CSWA Exam	