

COURSE TITLE: ENGR 248 Engineering Graphics: Mechanical

CREDITS: 3

ROOM: (IA-237)

CRN: 41326

LECTURE: (Pre Recorded Lectures in Moodle)

LAB: Wednesday 1:00 to 2:50 pm (IA-237)

IN-CLASS EXAMS:

- **Midterm: Wednesday Apr 27, 2022 (1:00 pm to 2:50 pm in IA-237)**
- **Final Exam: Monday Jun 6, 2022 (1:00 pm to 2:50 pm in IA-237)**
<https://www.linnbenton.edu/calendars/finals-schedule.php>

INSTRUCTOR: Craig Munsee

EMAIL: munseec@linnbenton.edu

OFFICE: IA-206

OFFICE HOURS (Additional time you can ask Questions):

- **Tuesday 3:00 pm to 3:50 pm in IA-206**
- **Wednesday Noon - 12:50 pm in IA-206 and (Zoom Meeting: Link in Moodle)**
- **Thursday Noon - 12:50 pm (Zoom Meeting: Link in Moodle)**
- **Friday Noon - 12:50 pm (Zoom Meeting: Link in Moodle)**
- **Others by Appointment**

Course Description:

- Includes two-dimensional and three-dimensional graphics, sketching, multi-view projection, dimensioning, descriptive geometry, and an introduction to computer based solid modeling.

Prerequisite(s):

- Working knowledge of Windows and MTH 111 College Algebra with a grade of C or better.

Course Outcomes:

- Upon successful completion of this course, students will be able to:
 1. Create orthographic projections.
 2. Create engineering drawings to proper drafting standards using Solid Modeling/ CAD software.
 3. Dimension engineering drawings to proper drafting standards.

Textbooks:

- Optional: SolidWorks for Designers, Sham Ticoo, CAD/CIM Technologies

Course Topics:

- Basic Sketching

- Sketch Editing & DIMs, Relations; Sketch & Base Features
- Reference Geometry, Features 2; Placed Features-1
- Placed Features-2; Editing Features
- Loft & Sweep; Midterm
- 3D Sketches & Parts; Assemblies & Drawings
- Basic Part Drawings; Drawing Views
- Sheetmetal
- Stress Analysis
- Weldments

Grading:

Assignment	Number	Percentage
Homework	10	40 %
Midterm	1	30 %
Final Exam	1	30 %
Total		100%

- 90-100% A, 80-89% B, 70-79% C, 60-69% D, < 59% F
- The class is designed to go over the material in the lectures and work through the in-class assignments (ICAs). After completing the weeks' worth of lectures, you should be ready to work on the homework. This gives you the opportunity to work on the assignment and be able to ask question before the assignments are due. If you wait till the day the assignments are due, you run the risk of not being able to get answers to questions and possibly not completing the assignments on time.
- There will not be any extra assignments given beyond those listed, so please **do not** email the instructor to ask if there is anything extra you can do to improve your grade.

Homework:

- Homework problem sets are linked in Moodle and are to be turned in to Moodle by 11:55 PM on the day they are due. If there is a problem with Moodle, you may email the assignment to the instructor.
- The type of files you will be turning in to Moodle for grading are Printed PDFs of the drawings and the SOLIDWORKS files.
- **The lowest homework grade will be dropped.**
- **Late homework will not be accepted unless an extension has been requested prior to the due date. A student is allowed only one two-day extension for a homework assignment.**
- The Student is responsible for turning the homework in on time and in the recommended format. They are also responsible for turning in the correct homework. If the homework is not turned in on time or the wrong assignment has been submitted a score of zero will be given for that assignment.

Exams:

- The exams will be in-class timed tests and will only be given on the day indicated above. The exams will be given during the weeks scheduled class time.
- **If you miss the exam on the day it has been offered, it is the reasonability of the student to arrange for a make-up exam. There will be a 10% grade penalty for each additional day**

you are later than the original exam date.

- No exam grades will be dropped.

Inservice/Holidays:

- School Inservice: LBCC will be closed (**Friday, Apr 1, 2022**)
- Memorial Day: LBCC will be closed (**Monday, May 30, 2022**)

Class Climate Survey:

- Student feedback is important to improve this course and to help the instructor know how to adjust teaching methods. Your feedback is taken seriously and does influence future versions of the course. The evaluations are anonymous, and links to the evaluations will be emailed to your student LBCC email account after the 5th week of the term. I encourage you take this opportunity to provide constructive feedback on the class. Thank you in advance for your input!
- **Extra Credit will be given for those who completing the Class Climate Survey.** Since the survey is anonymous you are asked to attach a screen shot showing that you completed the survey (Not a screen shot of your answers). A place to turn this in can be found on week 7 of Moodle.

Academic Integrity:

- You are expected to turn in your own work and not take credit for the work of others.
- For homework assignments, you may work together and discuss the problems with your classmates, but you are expected to turn in your own work. If you turn in something that is not your work, it is considered cheating (**This includes copying and sharing computer files**).
- **No collaboration is allowed for Exams.**
- **Depending on the severity of the incident, those caught cheating and those who aid them will receive a score of zero for that assignment or fail the class and will be reported to Jill Childress, Ed. D. | Manager, Student Conduct and Retention.**

Computer & Software Requirements:

- You will need a computer capable of running Windows and the **2021-2022 student version of SOLIDWORKS**. There is only a Windows version available, so if you own a MAC and you wish to install SOLIDWORKS on your computer, you will need to use Bootcamp to create a Windows partition or install VMware (Virtual Machine running Windows OS on top of the MAC OS).
- You will be given a limited one-year license number to be used to install the student version of SOLIDWORKS on your personal computer during the first week of class.
- If you are considering purchasing a new computer, I would recommend a Windows-based Laptop with an Intel i7 processor, 16 GB of RAM, and at least a 500 GB SSD with a very good Graphics card <https://www.solidworks.com/support/system-requirements>
- MAC OS computers are good computers too, but are limited when it comes to compatibility for Engineering software.

College Policies

COVID-19 CLASSROOM REQUIREMENTS FOR ALL STUDENTS AND FACULTY

Linn-Benton Community College has established rules and policies to make the return to the classroom as safe as possible. It is required for everyone to follow all of the campus rules and policies. To participate in this class, LBCC requires all students to comply with the following:

<https://www.linnbenton.edu/about-lbcc/college-services/safety/covid19/index.php>

WHERE TO REPORT A POSITIVE CASE OF COVID AND HOW TO KNOW IF YOU NEED TO QUARANTINE

In the event of a positive diagnosis of coronavirus, we appreciate your support in reporting it to our Office of Finance and Operations by contacting floms@linnbenton.edu. College administration will then work with local health authorities to begin contact tracing, and others who may have been exposed will be notified. The identity of the individual or individuals infected will be kept confidential, but you will be informed if a quarantine is necessary. If you are not informed about a close contact, you do not need to quarantine.

Drop/Withdraw Policy:

If you are withdrawing from the class, you must file a Schedule Change Form with Registration or use WebRunner. If you formally drop the class **before Monday of the second week of the term**, you will receive a tuition refund. If you withdraw after the Monday of the second week of instruction through the seventh week a ‘W’ will show up on your transcript. **No withdrawals are allowed after the end of the seventh week**. An instructor may not assign a “W” grade.

If you received financial aid or veteran’s benefits, PLEASE talk with associates at the appropriate office to determine what effects on eligibility dropping a course will have. Don’t jeopardize your eligibility!! You can contact the Financial Aid Office by calling (541) 917-4850 or by visiting the Financial Aid Office in Takena Hall.

If you stop attending the course without formally withdrawing you will continue to accumulate grades (zeroes for all assignments not turned in) and will receive the grade assigned by the instructor. You will also be held accountable for all charges on your account.

LBCC Comprehensive Statement of Nondiscrimination:

Linn-Benton Community College [does not discriminate](#) based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws in its programs or activities. For further information see [Board Policy 1015](#) and [Administrative Rule 1015-01](#). The following staff members have been designated to handle inquiries regarding the nondiscrimination policies:

For concerns or inquiries regarding disability accessibility and accommodations:

Contact: Carol Raymundo, Director of Center for Accessibility Resources
RCH-101, Albany Campus, Albany, OR 97321
(541) 917-4789
raymundo@linnbenton.edu

For concerns or complaints about the College or an LBCC staff member:

Contact: Scott Rolen, Director of Human Resource Development and Support and Title IX Coordinator
CC-108, Albany Campus, Albany, OR 97321

(541) 917-4425
rolens@linnbenton.edu

For concerns or complaints about a student:

Contact: Jill Childress, Manager for Student Conduct and Retention and Title IX Coordinator
WH-215, Albany Campus, Albany, OR 97321
(541) 917-4806
childrj@linnbenton.edu

Request for Special Needs or Accommodations:

Direct questions about or requests for accommodations to the Center for Accessibility Resources, 541-917-4789 or cfar@linnbenton.edu at least three business days in advance for special events and as soon as possible for classroom or other emerging requests. LBCC will make every effort to honor requests. LBCC is an equal opportunity educator and employer.

Student Resources:

LBCC has many resources to help our students be successful and overcome difficulties so that you can focus on learning. If you have a need, please contact your advisor for assistance and they can help direct you to the services you need. A list of some of these resources can be found in Aviso or the link below. <https://linnbenton.avisoapp.com/aviso/app/resourceGuide/index>

Changes to the Syllabus

I reserve the right to change the contents of this syllabus due to unforeseen circumstances. You will be given notice of relevant changes in class, or through LBCC e-mail.

ENGR 248 Class Schedule:

Week:	Topics Covered:	Assignments Due:
1 Mar 28	<ul style="list-style-type: none">• Principal Views and Line Types• Introduction to SOLIDWORKS• Sketching in SOLIDWORKS	<ul style="list-style-type: none">• Homework #1 (Due on Friday Apr 1)
2 Apr 4	<ul style="list-style-type: none">• Edit Sketches• Dimensions and Relations in Sketches• Equations and Base Features	<ul style="list-style-type: none">• Homework #2 (Due on Friday Apr 8)
3 Apr 11	<ul style="list-style-type: none">• Reference Geometry• Placed Features	<ul style="list-style-type: none">• Homework #3 (Due on Friday Apr 15)
4 Apr 18	<ul style="list-style-type: none">• Placed Features-2• Editing Features	<ul style="list-style-type: none">• Homework #4 (Due on Friday Apr 22)
5 Apr 25	<ul style="list-style-type: none">• Loft & Sweep	<ul style="list-style-type: none">• Midterm (Wednesday Apr 27)• Homework #5 (Due on Friday Apr 29)
6 May 2	<ul style="list-style-type: none">• Advanced Modeling 3D Sketch• Orthographic Drawings Parts of Dimensions• Drawings-3 Section & Other Views• Parts-of-Dimensions• DIM-DONTs	<ul style="list-style-type: none">• Homework #6 (Due on Friday May 6)
7 May 9	<ul style="list-style-type: none">• SolidWorks Assembly Modeling	<ul style="list-style-type: none">• Homework #7 (Due on Friday May 13)
8 May 16	<ul style="list-style-type: none">• SolidWorks Assembly Modeling	<ul style="list-style-type: none">• Homework #8 (Due on Friday May 20)
9 May 23	<ul style="list-style-type: none">• FEA-1-1 Stress Analysis Overview• FEA-1-2 SimulationXpress• FEA-1-3 Full Simulation• FEA-2 Stress Analysis Refinement• FEA-3 Design Optimization	<ul style="list-style-type: none">• Homework #9 (Due on Friday May 27)
10 May 30	<ul style="list-style-type: none">• Sheet Metal• Weldments	<ul style="list-style-type: none">• Homework #10 (Due on Friday Jun 3)
Finals Jun 6		<ul style="list-style-type: none">• Final Exam (Monday Jun 6)