

COURSE TITLE: Engineering Orientation II

CREDITS: 4

ROOM: Online course in Moodle

CRN: 16580

LECTURE/RECITATION:

Online video lectures

Online “In Class Assignments (ICA)”

INSTRUCTOR: Ingrid Scheel

EMAIL: scheeli@linnbenton.edu

OFFICE HOURS:

8 AM - 5 PM during the workweek by Gmail Chat or Email

Zoom video calls by appointment (please email request with at least three available times)

Course Description:

Covers systematic approaches to problem solving using the computer. Includes logic analysis, flow charting, input/output design, introductory computer programming, and the use of engineering software.

Prerequisite(s):

Math 111 College Algebra with a grade of C or better.

Course Outcomes:

Upon successful completion of this course, students will be able to:

1. Identify, formulate, and solve engineering problems.
2. Demonstrate the ability to apply mathematics, science, and engineering techniques to solve engineering problems.
3. Select and apply the techniques, skills, and modern engineering tools necessary for engineering practice.

4. Mathematically describe and solve engineering problems using complex numbers, vector and matrix operations, and simultaneous linear equations.
5. Develop internally documented computer programs that utilize sequence, selection and repetition control structures and user-defined functions using the SCI(MAT)LAB programming environment.

Text Books (not required):

Reference Book: Thinking Like an Engineer: An Active Learning Approach, Third Edition

Reference Book: MATLAB: An Introduction with Applications, 6th Edition: by Amos Gilat

Course Topics:

- Engineering Problem Solving of Basic Engineering Concepts: Units, and Unit Conversion, Force, Weight, Temperature, Pressure, Density, Energy, Power, and Efficiency
- Working with Excel Workbooks
- Graphical Solutions using Excel
- SCI(MAT)LAB programming environment

Grading:

	Number	Percentage
Homework (best 9 of 10)	9	35 %
In Class Assignments	9	15 %
Quizzes	10	15 %
Exams	2	35 %
Total		100%

90-100% A, 80-89.9% B, 70-79.9% C, 60-69.9% D, < 59.9% F

Exams:

Exam I: **Midterm Exam Friday, August 7 (Week 6)**

Exam II: **Final Exam Friday, September 4 (Week 10)**

There will be 2 Exams to be completed in class. Alternate testing times will be given only on a case-by-case basis. Exams will consist of Excel and or SCILAB assignments and essay questions reflecting on the material in class. These exams are open notes. **All submissions must be original work completed without peer assistance by the student submitting the exam.**

[Academic Calendar](#)

Online schedule: Note there is a quiz due on Moodle every **Friday of the term**. These quizzes are on the material covered in the weekly lectures and are available from 8 AM until 11:59 PM on Fridays. Each quiz consists of 1-5 questions and you have 30 minutes to complete the quiz. Quizzes are open note, open Excel, and open SCILAB but **NO peer help or internet is allowed**.

Week	Lectures	Assignments	Due
1	Intro, L00, L01, L02	ICA1	Q1
2	L03, L04, L05, L06	ICA2	ICA1, HW1, Q2
3	L07	ICA3	ICA2, HW2, Q3
4	L08, L09	ICA4	ICA3, HW3, Q4
5	L10, L11	ICA5	ICA4, HW4, Q5
6	L12, L13, L14	ICA6	ICA5, HW5, Q6, Midterm
7	L15	ICA7	ICA6, HW6, Q7
8	L16, L17	ICA8	ICA7, HW7, Q8
9	Review	ICA9	ICA8, HW8, Q9
10			ICA9, HW9, Q10, Final

Homework:

Homework problem sets are linked in Moodle and must be turned in by 5:00 PM on the day they are due. Please submit homework early and verify uploaded content before the deadline. If you run into time issues you can still submit homework for up to 80% full credit by the cutoff time of 8 AM Saturday morning after the deadline. **Students are responsible for ensuring correct file and file type uploads.** No credit will be given for PDFs or blank submissions. Homework is to be turned in to Moodle as an Excel or SCILAB file. Late homework will not be accepted unless prior arrangements have been made with the instructor. Each problem will be checked for a reasonable attempt at solving. Solutions to the homework problems will be posted in Moodle after the homework is due. Contact the instructor for more detailed feedback if solutions do not make sense. **The Student is responsible for turning in the correct and complete homework files on time.**

Expectations:

I expect that students will be involved in class. This includes checking Moodle often for announcements, discussions, and assignments. You should check Moodle at least two or three times per week to stay on schedule. Being prepared means students should use a computer with Excel and or

SCILAB on it where files can be saved to the hard drive. **Lecture slides are posted in advance so that you can understand the topics and prepare to contribute and ask questions. Questions submitted via email to the professor will be addressed by correspondence. If a question occurs often enough a video answering it for the entire class will be posted.**

Quizzes will occur weekly in this course on Fridays. Submit the quiz by the deadline for credit. Extensions will not be allowed unless prior arrangements have been made. Quiz topics exclusively cover lecture video material for each week.

HOW TO BE SUCCESSFUL IN THIS CLASS

- Check Moodle often.
- Ask questions.
- Watch the lecture videos and do the homework.
- Use resources available to you such as the instructor, student services, and external resources listed under the Announcements tab on Moodle.
- Learn how to ask clarifying questions.
- When confused, challenged, frustrated or having an “aha” moment, visit the instructor during their office hours.
- Review the syllabus and learn policies and procedures for this class. Understand your rights and responsibilities as a student and as a class member.
- Be engaged and prepared to stretch your abilities. You get out of this class what you put into it.

Course Evaluations:

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 Student Evaluations of Teaching are anonymous, and links to the evaluations will be emailed to your student email account after the 5th week of the term. I encourage you to take this opportunity to provide constructive feedback on the class. Thank you in advance for your input!

Academic Integrity:

It is understandable that you will discuss your homework and other assignments with your classmates and that is fine, but you are expected to write up your own results, whether it is on paper or using a spreadsheet or other program. I assume that you are ethical and honest. However, if there is an incident of academic dishonesty or cheating which includes sharing computer files you will receive a score of zero for that assignment and or test. If you knowingly assist in cheating you will also be held accountable. If there is a second offense, you will receive a grade of F for the course and the incident will be reported to the college administration with a recommendation for disciplinary action.

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 participation and 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.

Nondiscrimination and Non-Harassment Policy:

Linn-Benton Community College is committed to providing an atmosphere that encourages individuals to realize their potential. We embrace diversity and inclusion of all persons. LBCC prohibits unlawful discrimination 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. For further information see Board Policy P1015 in our Board Policies and Administrative Rules. Title II, IX, & Section 504: Scott Rolen, CC108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon.

To report: linnbenton-advocate.symplicity.com/public_report. In addition, the college complies with related federal, state, and local laws (Civil Rights, Disability & Rehabilitation Acts, Veterans Acts).

LBCC is committed to providing equal opportunity in all of its programs, policies, procedures, and practices, and the college shall promote equal opportunity and treatment through application of this policy and other college efforts designed for that purpose. For further information about Administrative Rule No. 1015-01 click [here](#).

Center for Accessibility Resources (CFAR):

You should meet with your instructor during the first week of class if:

1. You have a documented disability and need accommodations.
2. Your instructor needs to know medical information about you.
3. You need special arrangements in the event of an emergency.

If you have documented your disability, remember that you must make your request for accommodations through the Center for Accessibility Resources Online Services web page every term in order to receive accommodations. If you believe you may need accommodations but are not yet registered with CFAR, please visit the [CFAR website](#) for steps on how to apply or for services call 541-917-4789.

Students Rights, Responsibilities, and Conduct Policy:

LBCC students have rights: the right to free speech, the right to assemble, the right of a free press, etc. LBCC students also have responsibilities to their community: the responsibility to participate and engage in class, the responsibility to advocate for their needs (ask for help), the responsibility to support a respectful teaching and learning environment, the responsibility to treat all persons with respect, the responsibility to be truthful and honest in all work and communications, and the responsibility to follow staff directions, local, state, and federal laws. Rights and responsibilities balance together to create the best learning environment. For example, while you have free speech in the café or courtyard, in class the instructor decides whose turn it is to talk and what the topics for conversation will be. Students are free to believe what they believe, but instructors may require students to learn and recite concepts, principles, or theories for a class even if the student does not believe those concepts. You play a role in creating a positive community at LBCC. Please review your rights and responsibilities [here](#).

If you believe a student is violating your rights, ask to be treated with respect. If that does not resolve the situation, report to Associate Dean Dr. Lynne Cox, Takena 107. If you believe a faculty member or LBCC employee is violating your rights, please report to Human Resources, Scott Rolen, CC-108.

In cases of immediate danger, report to Public Safety, Red Cedar Hall (RCH-119), 541-926-6855. (We encourage all students to enter this Public Safety phone number into their cell phones.)

Personal Empowerment Through Self-Awareness:

LBCC is launching a new training called “Personal Empowerment Through Self-Awareness.” This training is an online video series on dating, sexual consent, and on preventing sexual violence or partner violence. Every student has a right to a healthy learning climate. Every new student is required by federal law to complete this training to learn how to safeguard yourself and others from sexual assault. We ask students to watch for email notification and to ensure that they complete this new training. (For example, do you know the number one date rape drug? It’s not what you think! Check out the training.) This online series reviews federal and Oregon law and is designed for your safety. The training will also direct you how to report dating, sexual, or partner violence to LBCC officials.

Technology Recommendations

It is possible that LBCC campuses will need to be closed to the public at times during summer term, depending on public health directives. If this does occur, our class will be delivered fully remotely and we won’t be able to meet face-to-face. LBCC is encouraging students to be as prepared as possible for this possibility by encouraging you to obtain the equipment you will need in order to be successful in any modality. Please see the recommended list of equipment below. Students who cannot afford these resources can contact the [Roadrunner Resource Center](#) about funding.

Standard equipment recommendation

- Broadband internet
- A computer with 256g SSD, 8G RAM, i5 6th gen processor (or equivalent functionality)
- Device with a microphone and speaker
- Device with a camera
- Consult [Standard Recommendation 1](#) or [Standard Recommendation 2](#) if looking for a product recommendation

Minimum equipment recommendation

- A wifi hotspot
- A computer with 128g SSD, 4G RAM, i3 6th gen processor (or equivalent functionality)
- Device with a microphone and speaker
- Device with a camera
- Consult [Minimum Requirement 1](#) if looking for a product recommendation

More resources (and feel free to reach out if you need or want more info!)

The following are resources dedicated to help students succeed. All of the following are available remotely. Please reach out if you are struggling in any of your classes:

- [Writing Center](#)
- [Math Assistance](#)
- [College Skills Zone and Tutoring](#)
- [First Resort](#)
- [Student Help Desk](#)
- [CFAR](#)
- [Advising Center and Counseling Services](#)
- [Library Services](#)
- [International Student Office](#)

Note: The instructor reserves the right to make changes to the course syllabus and schedule.