

COURSE TITLE: Engineering Orientation II

CREDITS: 4

ROOM: IA-215

CRN: 32919

LECTURE/RECITATION:

Monday/Wednesday 3:00-4:50 pm

LABS: In Class Assignments (ICA)

INSTRUCTOR: Ingrid Scheel

EMAIL: scheeli@linnbenton.edu

OFFICE HOURS:

By appointment

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.

- 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	25 %
In Class Assignments	10	10 %
Quizzes	10	15 %
Exams	2	50 %
Total		100%

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

Exams:

Exam I: **Week 6 1 hour allotted for exam during regular lecture time**

Exam II: **Final Exam Monday, March 16 3:00 pm - 4:50 pm**

[Linn-Benton Finals Schedule Winter 2020](#)

There will be 2 Exams to be completed in class. Alternate testing times will be given only on a case-by-case basis. For exams you may bring a handwritten **3” x 5” notecard** to be turned in with the exam. I will provide a table on common unit conversions. Cell phones are not to be used during exams. **Anyone caught with a cell phone or open internet browser during an exam will receive a zero grade.**

Holidays for the term:

Martin Luther King Jr. Day: LBCC will be closed **Monday January 20, 2020**

Homework:

Homework problem sets are linked in Moodle and must be turned in by 11:59 PM on the day they are due. Please submit homework early and verify uploaded content before the cutoff. **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 being present, asking questions, and participating in discussions. You should come to class prepared. Being prepared means students should bring a computer or borrow one in class, have paper and pencil, a calculator, and anything else you might need. **Lecture slides are posted in advance so that you can understand the topics and prepare to contribute and ask questions.**

A participation grade will be given for attendance in class. You must be present and participating in class to receive the credit for the day. If a situation arises that makes it necessary to miss a class, it is the student's responsibility to obtain notes from a peer. Giving notice of missed classes will result in less penalty than missing without comment.

Quizzes may occur at any time during this course. This will happen within the first five minutes of class and will usually cover the previous lectures' topics.

I expect you to be respectful of everyone in the class in word as well as behavior. Along these lines, I ask that you **turn off your cell phone during class and put it away.** If you need to leave class for any reason, please do so quietly.

HOW TO BE SUCCESSFUL IN THIS CLASS

- Attend.
- **Find a group to study with;** working with your classmates is one of the best ways to learn.
- Learn how to ask clarifying questions and how to be a coach for your classmates.

- 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.

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