

**COURSE TITLE:** ENGR 112 Engineering Orientation II

**CREDITS:** 4

**ROOM:** (Online)

**CRN:** 32919

**LECTURE/RECITATION:** Asynchronous (Pre Recorded Lectures Online)

**INSTRUCTOR:** Alyssa Stillian

**EMAIL:** [stillia@linnbenton.edu](mailto:stillia@linnbenton.edu)

**OFFICE:** <https://linnbenton.zoom.us/j/9607396320>

**OFFICE HOURS:** Mondays, 3-4 PM and Tuesdays, 2-3 PM (Zoom Meeting)  
(Others by Appointment)

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**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. Demonstrate the ability to apply mathematics, science, and engineering techniques to solve engineering problems.
2. Select and apply the techniques, skills, and modern engineering tools necessary for engineering practice.
3. Mathematically describe and solve engineering problems using complex numbers, vector and matrix operations, and simultaneous linear equations.
4. Develop internally documented computer programs that utilize sequence, selection and repetition control structures and user-defined functions using the SCI(MAT)LAB programming environment.

**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

## Computer Requirements:

- SciLab: <https://www.scilab.org/>
- Microsoft Excel: <https://www.microsoft.com/en-us/education/products/office>

## Text Books:

Reference Book: Introduction to SCILAB For Engineers and Scientists, by Nagar, Sandeep  
Reference Book: Thinking Like an Engineer: An Active Learning Approach, Third Edition  
Reference Book: MATLAB: An Introduction with Applications, 6th Edition, by Amos Gilat  
Reference Book: MATLAB for Engineers 4th Edition, by Holly Moore

## Grading:

	Number	Percentage
Homework*	9	25 %
In Class Assignments (ICA)*	9	15 %
Quizzes	2	10 %
Projects	2	50%
<b>Total</b>		<b>100%</b>

\*Best 8 out of 9 will be used to calculate grade.

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

## Homework/ICAs:

- Must be turned in by 11:55 PM on due date
- Problem sets are available on Moodle and files will be turned in on Moodle.
- Late homework will not be accepted unless prior arrangements with Instructor
- Homework will be checked for reasonable attempt to solve.
- Solutions will be posted to Moodle after the homework due date.
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## Quizzes:

Excel Quiz: **Wednesday Feb 3, 2021**  
Scilab Quiz: **Wed March 17, 2021**

**The quizzes will be online, timed, multiple choice and true/false and will only be given on the day indicated above. If you have a time conflict, you will need to contact your instructor before the quiz to arrange for a different day.**

## Projects:

**The projects will be due during the week of midterms and finals. More details about the projects will be provided during the week prior to the week they are due.**

**Holidays:**

- Martin Luther King Jr. Birthday, School Closed ([Monday, January 18, 2021](#))
- Presidents Day, School Closed ([Monday, February 15, 2021](#))

**Course Evaluations:**

Student feedback is important and appreciated. Your feedback is anonymous and will be used to help improve this course and the instructor's teaching methods.

**Academic Integrity:**

All exams are to be strictly your work. You may work together and discuss your homework and labs 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). Students who engage in academic dishonesty will receive a score of zero for that assignment or test and must be reported to the Dean of Students.

Please see the following for more information on Academic Integrity:

[Academic Integrity and Honesty](#)

**Drop/Withdraw Policy:**

If a student can no longer attend classes, they should officially withdraw from their classes. Students who drop classes within the refund period may expect a tuition refund. A grade of "W" will not be recorded if the drop is processed before the drop deadline (through the second Monday of the term). A grade of "W" will be recorded for classes withdrawal from after the refund period and before the withdrawal deadline (by the end of the 7th week). (Note: "W" grades are considered non-completion grades for academic standing and financial aid. Also see Refunds and Withdrawal Deadlines in the [Academic Calendar](#).)

**Center for Accessibility Resources (CFAR):**

LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in this class, please contact your instructor as soon as possible to discuss your needs. If you think you may be eligible for accommodations but are not yet registered with CFAR, please visit the [CFAR Website](#) for steps on how to apply for services. Online course accommodations may be different than those for on-campus courses, so it is important that you make contact with CFAR as soon as possible.

**Statement of Inclusion**

To promote academic excellence and learning environments that encourage multiple perspectives and the free exchange of ideas, all courses at LBCC will provide students the opportunity to interact with values, opinions, and/or beliefs different than their own in safe, positive and nurturing learning environments. LBCC is committed to producing culturally literate individuals capable of interacting, collaborating and problem-solving in an ever-changing community and diverse workforce.

[Equal Opportunity and Non-Discrimination Policy](#)

### **Know your rights and responsibilities:**

LBCC Community Standards are centered on our values: Opportunity, Excellence, Inclusiveness, Learning, Engagement. All students are expected to read, know and fulfill the expectations set out in the policy at [Students' Rights, Responsibilities and Conduct page](#). Students are expected to know both their rights and their responsibilities. As adults in an adult learning community, students are expected to resolve interpersonal conflicts through healthy, direct conversation and are expected to report unresolved, serious matters to the College, as noted under Complaints.

### **Basic Needs Statement: (Recommended)**

Any student who has difficulty affording food or finding a safe and stable place to live, or who needs assistance with resources for transportation, childcare, etc., is urged to contact the [Roadrunner Resource Center](#) for support and referral to community resources. Also, please talk with your instructor if you are comfortable doing so. This can help them direct you to the appropriate office and resource.

### **Title IX Reporting Policy**

If you or another student are the victim of any form of sexual misconduct (including dating/domestic violence, stalking, sexual harassment), or any form of gender discrimination, LBCC can assist you. You can [report](#) a violation of our sexual misconduct policy directly to our Title IX Coordinator. You may also report the issue to a faculty member, who is required to notify the Coordinator, or you may make an appointment to speak confidentially to our Advising and Career Center by calling 541-917-4780.

### **Public Safety/Emergency Resources:**

In an emergency, call 911. Also, call [LBCC Public Safety and Loss Prevention Office](#) at [541-926-6855](#) and [541-917-4440](#).

From any LBCC phone, you may alternatively dial extension 411 or 4440. LBCC has a [public safety app](#) available for free. We encourage people to download it to their cell phones. Public Safety also is the home for LBCC's Lost & Found. They provide escorts for safety when needed. Visit them to learn more.

### **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.