

COURSE TITLE: ENGR 212 Dynamics

CREDITS: 4

ROOM: (IA-227)

CRN: 30127

LECTURE: (Pre Recorded Lectures in Moodle)

RECITATION: (IA-227) (Time you can ask Questions as a class): Monday 3:00 to 4:50 pm

IN-CLASS EXAMS: (IA-227)

- **Midterm #1: Monday Jan 31, 2022 (3:00 pm to 4:50 pm in IA-227)**
- **Midterm #2: Monday Feb 14, 2022 (3:00 pm to 4:50 pm in IA-227)**
- **Final Exam: Monday Mar 14, 2022 (3:00 pm to 4:50 pm in IA-227)**

<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): (Zoom Meeting)

Wednesday Noon - 12:50 pm

Thursday Noon - 12:50 pm

Friday Noon - 12:50 pm

Others by Appointment

Course Description/Outcomes:

This class covers particle and rigid body kinematics and kinetics, Newton's laws, work/energy and impulse momentum. Upon successful completion of this course, students will be able to:

1. Perform kinematic analysis of particles and bodies.
2. Perform kinetic analyses of systems using forces, moments, and accelerations.
3. Perform work energy analyses of systems.
4. Perform momentum impulse analyses of systems.

Prerequisite(s):

- Prerequisite: ENGR 211 Statics and MTH 252 Integral Calculus with a grade of "C" or better.
- Recommended: PH 211 General Physics with Calculus.
- Recommended: Working knowledge of spreadsheets and/or MatLab.

Text Book:

- Required: Dynamics Notes, Edition 2.00 or Later
- Recommended: Engineering Mechanics: Dynamics by Russell C. Hibbeler, Any Edition

Grading:

Assignment	Number	Method 1	Method 2
Quiz/Homework	10	16%	16%
Midterms #1	1	28%	25%
Midterms #2	1	28%	25%
Final Exam	1	28%	34%
Total		100%	100%

- 90-100% A, 80-89% B, 70-79% C, 60-69% D, < 59% F
- Three exams will be given, two midterms and a comprehensive final. There will be two methods for determining your grade, the method that gives you the best result will be used. Either each of the exams will count 28% of your grade; or the final will count 34% and each of the midterms will count 25%.
- Incompletes will be handled on a case-by-case basis; it is the responsibility of the student to discuss the situation with the instructor.
- The class is designed to go over the material in the lectures and work through the example problems. 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 over the weekend and be able to ask question before the assignment is due. If you wait till the day the assignment is due, you run the risk of not being able to get answers to questions and possibly not completing the assignment 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.
- Homework is to be scanned to a PDF and turned in to Moodle for grading.
- **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.**
- 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.
- 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.

Holidays:

- Martin Luther King Jr. Day: LBCC will be closed (**Monday, Jan 17, 2022**)
- Presidents' Day: LBCC will be closed (**Monday, Feb 21, 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, 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.**
- **Those caught cheating and those who aid them will receive a score of zero for that assignment or test and will be reported to the Dean of Students.**

Computer & Software Requirements:

- You will need a computer capable of accessing Moodle to watch the class videos, submit your homework, and take exams. There are no software requirements for this class.

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>

MASKS REQUIRED AT ALL TIMES IN CLASSROOM

Wear a mask or face covering indoors at all times. Your mask or face covering must be properly worn (fully covering nose and mouth and tight-fitting). Mesh masks, face shields, or face covering that incorporates a valve designed to facilitate easy exhalation are not acceptable. If you have a medical condition or a disability that prevents you from wearing a mask or cloth face covering, you must obtain an accommodation from CFAR (Center for Accessibility Resources) to be exempt from this requirement. State guidelines do not limit class size. Physical distancing accommodations can be made upon request and cleaning supplies are also available for personal use.

TESTING RESOURCES

We are also so pleased to announce that FREE TESTING for Covid-19 will be available for students and employees at our Albany Main Campus (located at the Campus Bookstore's book-buy-back window by the Business Office); the Health Occupations Center in Lebanon, and the Benton Center in Corvallis, beginning next week and continuing throughout the term. LBCC will have access to the results and they will be used for contact tracing purposes only. Use of the testing facility is also not mandatory, but is being provided as a resource for individuals who may wish to get tested.

AVAILABILITY OF DISPOSABLE MASKS, N95 MASKS, CLEANING SUPPLIES, ETC.

If you've accidentally forgotten your mask, LBCC will have supplies available throughout our campus locations and high-traffic areas. In addition, if you would like to request an N95 mask, the college will have a limited supply available and we will do our best to accommodate you. Cleaning supplies will also be made available for staff who request them. Please visit the Facilities Office for special supply requests, or visit one of these locations where general supplies will be available.

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 foms@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.

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 at <http://www.linnbenton.edu/cfar> for steps on how to apply for services or call 541-917-4789 or cfar@linnbenton.edu.

LBCC Comprehensive Statement of Nondiscrimination

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 1015 in our Board Policies and Administrative Rules. Title II, Title IX (employee cases), & Section 504: Scott Rolen, Director of Human Resource Development and Support, CC-108, 541-917-4425; Title IX (student cases): Jill Childress, Manager for Student Conduct and Retention, WH-215, 541-917-4806, LBCC, Albany, Oregon. If you feel you have been discriminated against in any interaction at Linn-Benton Community College, or have been harassed by another person while at LBCC, or wish to report any concern or complaint, please navigate to this page to make a report: linnbenton.edu/report-it. This and additional information can be found at <https://www.linnbenton.edu/about-lbcc/administration/policies/equal-opportunity.php>.

Know your rights and responsibilities:

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 (<http://linnbenton.edu/go/studentrights>).

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

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 212 Class Schedule:

Week:	Topics Covered:	Assignments Due:
1 Jan 3	<ul style="list-style-type: none"> • Syllabus • 01_Introduction to Dynamics • 02_Variable Acceleration • 03_Curvilinear Cartesian 	<ul style="list-style-type: none"> • Syllabus Quiz (Take by Sunday Jan 9)
2 Jan 10	<ul style="list-style-type: none"> • 04_Curvilinear Normal Tangential • 05_Curvilinear Polar • 06_Pullies • 07_Simple Relative Motion 	<ul style="list-style-type: none"> • Homework #1 (Due on Wednesday Jan 12)
3 Jan 17	<ul style="list-style-type: none"> • 08_F=ma Intro and Friction • 09_F=ma • 10_F=ma Curved Motion 	<ul style="list-style-type: none"> • Homework #2 (Due on Wednesday Jan 19)
4 Jan 24	<ul style="list-style-type: none"> • 11_Work and Energy • Midterm #1 Review 	<ul style="list-style-type: none"> • Homework #3 (Due on Wednesday Jan 26)
5 Jan 31	<ul style="list-style-type: none"> • 12_Momentum and Impulse Part 1 • 12_Momentum and Impulse Part 2 	<ul style="list-style-type: none"> • Midterm #1 (Monday Jan 31) • Homework #4 (Due on Wednesday Feb 2)
6 Feb 7	<ul style="list-style-type: none"> • 13_Rigid Body Rotation • 14_Plane Motion Rel Vel Part 1 • Midterm #2 Review 	<ul style="list-style-type: none"> • Homework #5 (Due on Wednesday Feb 9)
7 Feb 14	<ul style="list-style-type: none"> • 14_Plane Motion Rel Vel Part 2 • 	<ul style="list-style-type: none"> • Midterm #2 (Monday Feb 14) • Homework #6 (Due on Wednesday Feb 16)
8 Feb 21	<ul style="list-style-type: none"> • 15_Plane Motion Rel Acc • 16_Moment of Inertia and Center of Gravity • 17_Rigid Body Kinetics Translation 	<ul style="list-style-type: none"> • Homework #7 (Due on Wednesday Feb 23)
9 Feb 28	<ul style="list-style-type: none"> • 18_Rigid Body Kinetics Rotation • 19_Rigid Body Kinetics Plane Motion 	<ul style="list-style-type: none"> • Homework #8 (Due on Wednesday Mar 2)
10 Mar 7	<ul style="list-style-type: none"> • Final Review 	<ul style="list-style-type: none"> • Homework #9 (Due on Wednesday Mar 9)
Finals Mar 14		<ul style="list-style-type: none"> • Final Exam (Monday Mar 14)