**ENGR 212 DYNAMICS Winter 2020**

**COURSE TITLE: ENGR 212 Dynamics CREDITS: 4**

**ROOM: IA-227 CRN: 30127 and 31891 (Online Class)**

**LECTURE/RECITATION:**

**Monday/Wednesday 03:00-04:50pm**

**Friday 03:00-03:50pm INSTRUCTOR: Craig Munsee**

**EMAIL: munseec@linnbenton.edu OFFICE: IA-206**

**OFFICE HOURS:**

**Monday, Tuesday, Wednesday, & Friday 1:00 pm – 2:00 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

**Class Schedule:**

Week Subject 1 Particle Kinematics, Curved Motion 2 Curved Motion 3 Relative Motion, F = ma 4 Work and Energy 5 Momentum

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6 Momentum, Rotation of Objects 7 Relative Motion of Objects 8 Relative Motion of Objects, Moment of Inertia, F = ma: Translation 9 Kinetics of Objects: Translation and Rotation 10 Kinetics of Objects: Plane Motion

**Grading:**

Assignment Number Method 1 Method 2 Homework (best 8 of 9) 8 16% 16% Midterms 1 1 28% 25% Midterms 2 1 28% 25% Final Exam 1 28% 34% **Total 100% 100%**

90-100% A, 80-89.9% B, 70-79.9% C, 60-69.9% D, < 59.9% 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%. To make up an exam, a student must contact the instructor before the exam and schedule a make- up exam within one week of the original exam date. Incompletes will be handled on a case by case basis; it is the responsibility of the student to discuss the situation with the instructor.

**Homework:** Homework problem sets are linked in Moodle and will be turned in by 11:55 PM on the day they are due. Homework is to be scanned to a PDF and turned in to Moodle. 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. The lowest weekly homework score will be dropped. 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 responsible for turning in all of the pages and putting them in the correct order. They are also responsible for turning in the correct homework.**

**Exams:**

Midterm I: Subject coverage to be announced in class (**Monday, February 3, 2020**) Midterm II: Subject coverage to be announced in class (**Monday, February 24, 2020**) Final Exam: Comprehensive (**Monday, March 16, at 3:00 pm – 4:50 pm**) https://www.linnbenton.edu/current-students/schedule-and-learn/finals-schedule/

**Online Class Testing:** For the students taking the online version of this class, you may take the exam in class or in the testing center. If those option do not work for you, you will need to find a testing facility near you that can proctor the exams. You will need to notify me of your chosen testing facility by the end of the first week of classes and give me the information as to how to contact them. **Please be aware that students are responsible for any costs associated with the testing. Acceptable Proctors are local Community Colleges and Universities like the Student Assessment Testing here on Campus** (https://www.linnbenton.edu/future-students/make-it-official/student-assessment/make-up-testing).

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**Holidays:**

Martin Luther King Jr. Day: LBCC will be closed (**Monday, Jan 20, 2020**) Presidents' Day: LBCC will be closed (**Monday, Feb 17, 2020**)

**Expectations:** 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 and computers during class** and put them away so as to avoid causing a distraction. If you need to leave class for any reason, please do so quietly.

**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 (SETs) 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 take this opportunity to provide constructive feedback on the class. Thank you in advance for your input!

**Academic Integrity:** You may work together and discuss your homework 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). **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.**

**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.

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**College Policies**

**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.

**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 P1015 in our Board Policies and Administrative Rules. Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon. To report: linnbenton-advocate.symplicity.com/public report.

**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.

**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.

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