# **Clackamas Community College**

Online Course/Outline Submission System

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Section #1 Conoral Course Information				

### Section #1 General Course Information

**Department:**Engineering Science

Submitter

First Name: Eric Last Name: Lee Phone: 6163 Email: elee

# Course Prefix and Number: ENGR - 212

## # Credits:4

**Contact hours** 

Lecture (# of hours): 44 Lec/lab (# of hours): Lab (# of hours):

Total course hours: 44

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

# Course Title: Dynamics

**Course Description:** 

Kinematics, kinetics, work-energy, and impulse-momentum relationships of engineering systems. The course examines the fundamental principles of Newton's laws of motion, with applications to basic particles and rigid bodies in one, two, and three dimensions.

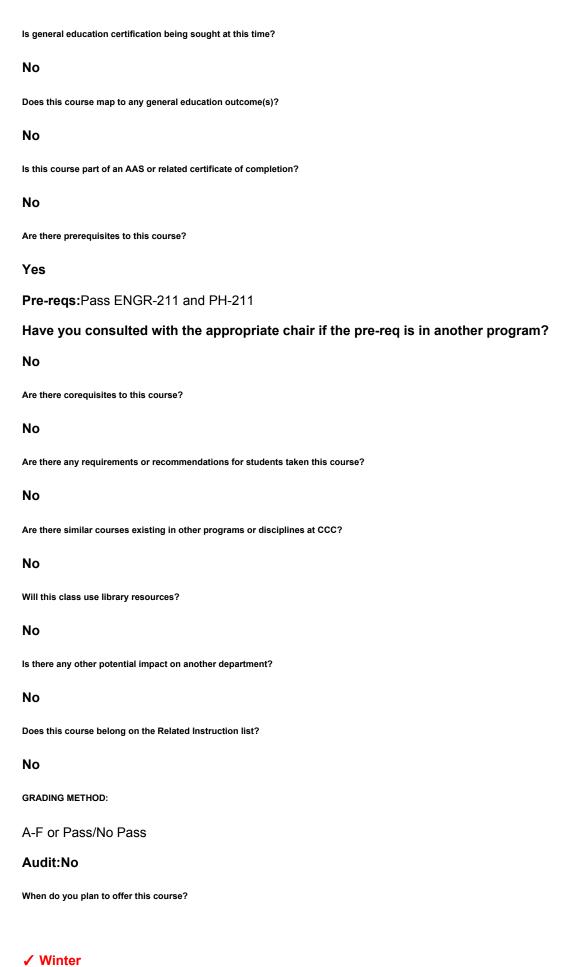
# Type of Course:Lower Division Collegiate

Is this class challengeable?

No

Can this course be repeated for credit in a degree?

No



Is this course equivalent to another?

If yes, they must have the same description and outcomes.

### No

Will this course appear in the college catalog?

# Yes

Will this course appear in the schedule?

# Yes

Student Learning Outcomes:

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

- 1. understand the fundamental principles of mechanics, particularly the kinematics and kinetics of motion;
- 2. apply analytical and problem-solving abilities in those areas,
- 3. use inventiveness and skills of inquiry in recognizing problem types and in applying those skills to applications in the areas of dynamics.

This course does not include assessable General Education outcomes.

# **Major Topic Outline:**

- 1. Kinematics of a Particle.
- 2. Kinetics of a Particle: Force and Acceleration.
- 3. Kinetics of a Particle: Work and Energy.
- 4. Kinetics of a Particle: Impulse and Momentum.
- 5. Planar Kinematics of a Rigid Body.
- 6. Planar Kinetics of a Rigid Body: Force and Acceleration.
- 7. Planar Kinetics of a Rigid Body: Work and Energy.
- 8. Planar Kinetics of a Rigid Body: Impulse and Momentum.

Does the content of this class relate to job skills in any of the following areas:

Increased energy efficiency
 Produce renewable energy
 Prevent environmental degradation
 Clean up natural environment
 Supports green services

Percent of course:0%

# Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

- 1. Is there an equivalent lower division course at the University?
- 2. Will a department accept the course for its major or minor requirements?
- 3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

First term to be offered:

Next available term after approval

# ✓ OIT (Oregon Institute of Technology) ✓ OSU (Oregon State University) Identify comparable course(s) at OUS school(s) Oregon Tech - ENGR 212 OSU - ENGR 212 PSU - EAS 215 How does it transfer? (Check all that apply) ✓ required or support for major :