

Engineering 215**Dynamics****Winter 2009****Instructor:** Fred Kuczmarski**Phone:** 546-6993**Office:** Foss Building 5348**E-mail:** fkuczmar@shoreline.edu**Hours:** 8:30-9:20 MWF, 10:30-11:20 T,Th, or by appointment. Or feel free to drop by my office any time.**Text:** *Dynamics, 11th edition*, R.C. Hibbeler**Prerequisites:** Physics 221 (2.0 or above), Engineering 214 (2.0 or above) and Math 163 (concurrently)**Topics:** Kinematics of a Particle (Chapter 12)

Planar Kinematics of a Rigid Body (Chapter 16)

Kinetics of a Particle: Force and Acceleration (Chapter 13)

Planar Kinetics of a Rigid Body (Chapter 17)

Kinetics of a Particle: Work and Energy (Chapter 14)

Planar Kinetics of a Rigid Body: Work and Energy (Chapter 18)

Kinetics of a Particle: Impulse and Momentum (Chapter 15)

Planar Kinetics of a Rigid Body: Impulse and Momentum (Chapter 19)

Course Objectives: Understand the fundamental concepts and theories that explain the laws of motion for particles and rigid bodies in two-dimensions. Learn how to express these laws mathematically and use them to solve problems.**Tests:** There will be three tests, each covering two chapters. The approximate dates of the tests are January 22, February 12 and March 5. One 3x5 index card with formulas is permitted. Makeups will be given only in the event of illness or emergency, provided you contact the instructor **BEFORE** the exam.**Final:** The final is on Wednesday, March 18, 11-1pm. It will be comprehensive. One 3x5 index card with formulas is permitted. This date is set by the college and cannot be changed for any reason. Please plan to attend.**Homework:** Two homework problems will be collected each week. After each problem is returned, you will be given one opportunity to make corrections and resubmit your solution. The maximum score for resubmitted solutions is 15/20. Please follow the following requirements:

Use standard engineering paper. Write in standard block lettering and follow all other standards common to engineering courses.

State each problem in its entirety and give brief explanations using complete sentences in your solution.

Define all variables you introduce.

Establish a coordinate system where appropriate.

End with a concluding sentence that answers the question.

Round answers to three significant digits.

Use standard-size paper without tears or fringes.

Staple any work that is more than one page.

Write neatly in pencil. Do not cross out errors. If you find yourself erasing extensively, stop and start again on a fresh page.

Homework is due at 6:30 am on the due date, and should be placed in the appropriate envelope on the instructor's office door. You will have two opportunities (to be used at your discretion) to turn in a homework problem late, but it must be handed in by 6:30am of the next weekday. Many other homework problems will be assigned but not collected. To do well in this class it is essential that you do the homework daily. I strongly encourage you to find a study partner.

P/NC Option Grading: This option is not available for this class.**Withdrawals:** The last day to withdraw from class is February 18.**General Comments:** To master the material, it is essential that you set aside time **each day** to think about the homework problems and the concepts introduced in class. You should plan on spending an average

of fifteen hours per week outside of class. The course material is quite challenging and you should not be surprised to have difficulty solving some of the homework problems. On the other hand, you should not spend hours on a single problem without making progress. Should you find yourself unable to make progress on a problem, put it aside and return to it later or ask me for help.

Cheating and Plagiarism: Any student caught cheating on a test will get a 0.0 for the course. While it is intended that you consult with one another on the homework, it is not permissible to copy the work of another student. Should this occur, all students involved will receive a 0 for that homework.

Emergencies: If school is closed for any reason, we will start where we left off when class resumes. If we were scheduled to have an exam the day school is canceled, the exam will take place the first day back at school.

Electronic Devices All electronic communication devices such as cell phones and pagers must be turned off during class.

Grading: The grade will be based on the following. The point distribution shown below is approximate and is subject to change.

Homework	20 @ 20 points each for 400 points
Tests	3 @ 80 points each for 240 points
Final	1 @ 120 points

The grading scale is linear and will be approximately as follows:

95%: 4.0 80%: 3.0 65%: 2.0