PHYS 121: Mechanics—Fall 2014
An introductory course in physics for students intending to concentrate their future studies in the physical sciences, optometry or mathematics; includes particle kinematics and dynamics, forces in nature, work and energy, conservation of energy and linear momentum, rotational kinematics and dynamics, and conservation of angular momentum.

Lecture Section 001: M/W/F 2:30 – 3:20 in B1 271
Lecture Section 002: M/W/F 3:30 – 4:20 in HH 1101

Instructor
Dr. Richard Epp
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Office hours: Anytime I am in. To be sure send an email to set up a time. Please include the text “PHYS 121” in the subject of any emails.

Textbook
Recommended textbook (optional): “University Physics with Modern Physics” by Young & Freedman. Recommended online problems (optional): “Mastering Physics.” The UW bookstore stocks both, bundled together at a discount.
Note: Any similar textbook (new or used) will suffice as long as it is calculus-based; e.g., Serway et al, Halliday et al, Hawkes et al, and Wolfson have all been used in the past for this course. The Young & Freedman text (which includes chapters on modern physics) will suffice for three courses: PHYS 121, PHYS 122, and PHYS 124. You may also download a textbook, e.g., the book by Benjamin Crowell: http://www.lightandmatter.com/.

Tutorials
Six tutorials are held as follows:
Tue 10:30-11:20 PHY 235
Tue 11:30-12:20 PHY 150, RCH 112
Wed 12:30-01:20 PHY 235
Thu 08:30-09:20 PHY 150
Thu 09:30-10:20 RCH 103
You may attend any of these tutorials, and as many as you wish.

Weekly Assignments
Assignments will be posted on UW Learn on Fridays and are due in class a week after the following Monday (one week plus two weekends). A selection of each assignment will be marked. You can pick up your marked assignments in any of the tutorials, and also check your mark on UW Learn. Solutions will be posted on UW Learn—study these carefully. Late assignments will generally not be accepted, and will be given a grade of zero. Due to privacy regulations, assignments will only be returned if they are identified only by your “121_ID” (i.e., your name or student number must not appear on the assignment). You will receive an email with your 121_ID in the next few days (sent to your email address listed on QUEST). It is expected that an average student will spend approximately five hours per week on the assignments. If you find it is taking significantly longer or shorter to complete these assignments please speak with the instructor.

Midterm Tests
There will be two 50-minute midterm tests held during tutorials. You must write these tests during your assigned tutorial time slot. If a midterm test is missed for legitimate academic reasons the grade will be shifted to the final exam. Midterm test tutorials:
Oct 14-16: 1st 4 weeks of material
Nov 11-13: 2nd 4 weeks of material

Final Exam
There will be a 150-minute exam in December. The date will be set by the registrar by early November.

Assessment
Individual best of two options:
Assignments 20%
Midterm Tests 30%
Final Exam 50%
or:
Assignments 10%
Midterm Tests 15%
Final Exam 75%

Note: You must pass the final exam to pass the course.

Weekly Course Content
(approximate dates)
Sept 8 Doing Physics
Sept 15 Motion in 1D, 2D, 3D
Sept 22 Newton’s Laws
Sept 29 Applying Newton’s Laws
Oct 6 Work and Energy
Oct 13 Conservation of Energy
Oct 20 Momentum & Collisions
Oct 27 Rotational Dynamics
Nov 3 Angular Momentum
Nov 10 Rolling Motion
Nov 17 Statics
Nov 24 Review

Important Dates
Sept 8 Lectures Begin
Sept 26 Drop, Penalty 1 Period Begins (no penalty for courses dropped before this date)
Oct 13 Holiday (Thanksgiving)
Nov 15 Drop, Penalty 2 Period Begins (WD grade assigned for courses dropped before this date)
Dec 1 Lectures End
Dec 4 Exam Period Begins
Dec 11 Exam Period Ends
Academic Integrity

“In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust,fairness, respect and responsibility.”

Grievance

“A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy #70, Student Petitions and Grievances, Section 4. http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm”

Discipline

“A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about ‘rules’ for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offenses and types of penalties, students should refer to Policy #71, Student Discipline, http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm”

Appeals

“A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy #72 (Student Appeals) http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm”

Students with Disabilities

“The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.”

Travel and the Final Examination Period

“Student travel plans are not considered acceptable grounds for granting an alternative examination time. (see http://www.registrar.uwaterloo.ca/exams/finalexams.html).”

Illness

If you are ill and are unable to complete one or more course elements you must obtain a “Verification of Illness” form from this URL: http://www.healthservices.uwaterloo.ca/Health Services/verification.html, have it signed by your doctor and bring it to the Science Undergraduate Office (Earth Sciences and Chemistry Building Room 253).

Accommodation for Missed Course Elements

If an assignment is missed for legitimate academic reasons the remaining assignments will be re-weighted to omit the assignment. If an exam is missed for legitimate academic reasons you will be required to write the exam the next time the course is offered. It is your responsibility to arrange to write the exam.

Most Importantly: Please talk to me if you have any problems at all—I am always happy to try to help!