To describe the motion of objects in three dimensions using momentum, forces, energy, and generalized co-ordinate systems

Instructor
Name: Dr. Michael L Allen
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Lab: Webster 249
Phone: 509-335-1279
Email: mlfa@wsu.edu

Course communication
Web Page: http://astro.wsu.edu/allen/courses/phys320/
Instructor Office Hours: tba
Assignment Submissions: to the instructor, or to the Physics Dept main office in Webster 1245

Right to privacy
The Family Educational Rights and Privacy Act (FERPA) states that academic records are private and can not be revealed to a third party. To ensure your privacy, I will communicate with you ONLY (1) from your WSU email address, and (2) in person. I never post grades electronically. I do make weekly postings of grades, and class statistics, on paper. If you wish your grades to be omitted from these postings then please inform me.

Catalog info

Texts
1. Classical Mechanics, by Taylor (problem sets will be assigned from this text)

Meeting Places
Regular Lectures: MWF 1:10-2:00 pm, in Webster 11 (level B)
Planetarium: Sloan Hall 231
Observatory: on Olympia Ave, near the racetrack and greenhouses, south-east end of campus
A campus map is available at http://www.campusmap.wsu.edu

Assignments
1. Assignment statements will be posted to the course webpage.
2. Paper copies of the assignments can be submitted either directly to the instructor, or to the Physics Dept main office in Webster 1245. Electronic copies will not be accepted (pending circumstances).
3. Late assignments will not be accepted (pending circumstances).

Holidays
Labor Day: Mon Sep 5, 2011
Veteran’s Day: Fri Nov 11, 2011
Thanksgiving Break: Nov 21 - 25, 2011
A full academic calendar is available from the web site of the Registrar, http://www.registrar.wsu.edu

Classroom Etiquette
1. The course is conducted mostly by lecture format, plus short collaborative-style surprise quizzes.
2. Cell phones are a blight upon the land. If your cell phone rings in class then you will be assigned a 3,000 word essay on some aspect of technology and ethics. Completion of this essay will become a requirement for passing this course.
3. Please show courtesy to your fellow classmates and do not chat unnecessarily during the lecture. Being disruptive is ground for expulsion. Reference: Academic Regulation 45.

List of topics
Chapter 1: Vector algebra (Not taught formally, it is assumed knowledge)
Chapter 1: Newton’s laws of motion (Quickly reviewed)
Chapter 2: Projectiles (§2.1 - 2.4, omitting applications to E&M)
Chapter 3: Momentum & angular momentum (A discussion of solid bodies is postponed to §10)
Chapter 4: Energy
Chapter 5: Oscillations (§5.1 - 5.6, omitting Fourier series)
Chapter 6: Calculus of variations
Chapter 7: Lagrange's equations (§7.1 - 7.7, Lagrange multipliers are omitted)
Chapter 9: Mechanics in non-inertial frames
Chapter 10: Rotational motion of rigid bodies (Starting with §3.5)
Chapter yz: Special topics
Evaluation

20% Assignments
20% Tests: dates tbd, chapters 1-3 / 4-5 / 6-7
20% Quizzes
20% Quantitative final exam: Mon 28 Nov (take home)
20% Conceptual final exam: Tue Dec 13, 3:10-5:10pm sharp, in the classroom

To receive credit in this course, you must take the final exam. Your grade is based entirely upon your ability to communicate in writing an understanding of the course material. Your grades will be reported on the percentage and 4-point scales. You are allowed to bring a crib sheet to tests and the exam. The crib sheet must be a single-sided sheet of 8.5×11in paper with no attachments.

The following table shows approximately how percentages translate to grade points. These numbers WILL change in a way dependent upon the performance of the class, but never to lower your grade.

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Extra credit

Extra credit will be granted for participation in indoor planetarium shows and outdoor sky observing at the WSU Jewett Observatory (http://astro.wsu.edu/observatory.html) or elsewhere, hosted by the Palouse Astronomical Society (http://www.palouseastro.org).

Outdoor observing dates will be announced in class. All observing begins at dusk. Outdoor observing may be cancelled at the last minute if the sky is overcast with clouds.

Final exam policies

WSU Academic Regulations 78-80 state that (1) No final exams will be given at a different time than posted, except (2) an exam date may be changed if a student has 3 or more exams on a single day. (3) No exams shall be given during Dead Week, except make-up exams.

Incomplete grade policy

(1) Students requesting an incomplete or ‘I’ grade must apply to the instructor in writing no later than 5pm on the final day of instruction for the semester or session. (2) In this letter the student must demonstrate an understanding of WSU Academic Regulations 90 and 114. (3) A letter of support from the student’s academic advisor must accompany the request.

Academic Integrity

“Academic dishonesty” is anytime you represent someone else’s work as your own. All forms of cheating, plagiarism, and fabrication, are prohibited. The WSU Academic Integrity Policy is printed in the Student Handbook and Faculty Manual and is available from the Office of Student Affairs. In this course, students receive a 10% final grade reduction for a first offence, and fail the course for subsequent offences. A formal report is sent to the Office of Student Conduct. References: http://www.conduct.wsu.edu, and Academic Regulation 88.

Disability resources

Reasonable accommodations are available for students who have a documented disability. Please visit the Disability Resource Center (DRC) during the first two weeks of every semester to seek information or to qualify for accommodations. All accommodations must be approved through the DRC, located in Washington Bldg 217, phone 509-335-3417 in Pullman, or http://www.drc.wsu.edu/.

Campus Safety

The current Campus Safety Plan is available at http://safetyplan.wsu.edu. Please look at the general emergency information provided at http://oes.wsu.edu/emergencies from the Emergency Management Office. You can check any campus alerts at http://alert.wsu.edu. This site will have the most current information about any campus emergency. On your Student Information System account http://zzusis.wsu.edu you can register your emergency contact information so you can be notified directly by phone and/or email about any crisis occurring on campus.

Strategies for success

Look up any word you do not understand in a good dictionary. Work with WSU Counseling Services to discover your best study methods and implement them (http://counsel.wsu.edu). Form a weekly study group that can meet for 30-60 minutes. Get an early start on assignments. Make good use of instructor office hours by arriving with a written list of questions. Mental and physical health go hand in hand: eat right, stay active, stop watching TV. Maintain an academic mindset: question everything, be not content with your knowledge.