General Information

Instructor: Travis Martin
Email: travismartin@uvic.ca
Office: Elliot 402B
Office Hours: TBA
Course Webpage: http://coursespaces.uvic.ca

Lecture Schedule:
TWF 12:30 pm - 1:20 pm in CLE A311

Prerequisites:
Either PHYS 110 and PHYS 111, or PHYS 120 and PHYS 130; and MATH 204.

Required Materials:
Text: "Analytical Mechanics" by Fowles and Cassiday

Special Notes:
You MUST complete all lab exercises and pass the lab component of the course in order to pass this course, regardless of your performance in the other parts of the course.

You will be programming in this course. In the labs, you will be using MatLab. For assignments, you can use any programming language you like. If you wish to download an open source version of MatLab, look for “Octave”. It has all the same functionality and syntax as MatLab, but is free.

Course Overview

This course will cover Newtonian physics from a more rigorous point of view. The end goal will be to cover Lagrangian mechanics and wave behaviour.

Brief Review: Chapter 1 - Vector Algebra and Calculus
Chapter 2 - Newtonian Mechanics in 1D
Chapter 4 - Motion in 3D
Chapter 5 - Noninertial Reference Frames
Chapter 6 - Gravitation and Central Forces
Chapter 7 - Dynamics of Systems of Particles
Chapter 10 - Lagrangian Mechanics
Chapter 11 - Oscillating Systems
Grading

If the application of this scheme would result in grades that are judged by the instructor to be inconsistent with the University’s grading descriptions (https://web.uvic.ca/calendar2014/FACS/UnIn/UAre/Grad.html), then the instructor will assign percentages consistent with them.

Assignments: 20%

There will be approximately 8 assignments throughout the semester. Assignments will be due at the start of class on the provided due date. Assignments may include questions that have a programming component to them. You will be expected to submit your code along with the graph/figure that you produce. You may use any programming language you prefer (note: Excel is not a programming language).

Assignment Policy: You are allowed to collaborate on assignments, so long as your work and your solutions are your own. Discussing with a friend is no different from discussing with a professor, except it will likely help your friend learn the material better (teaching someone is the best way to learn material, trust me).

Neatness Policy: You are expected to treat your assignments with respect. All assignments must be submitted with a cover page (provided) and stapled in the upper left corner. Assignments without a cover page or a staple will not be accepted, nor will assignments that use ripped or excessively creased paper. This includes pages torn from a coil notebook.

Laboratory Activities: 20%

The first lab will be an introductory orientation lab. Attendance at this lab is mandatory. Otherwise, students will attend the lab three times during the term to perform three different lab exercises. Reports are due one week after performing the experiment. Any questions regarding the labs should be addressed to Douglas McKenzie, the lab coordinator, at dmckenzie@uvic.ca.

Midterm Exam: 20%

The midterm is designed to encourage students to summarize their knowledge of the material in the first half of the course. The midterm will be held in-class at a date that will be determined near the start of June.

Final Exam: 40%

The final exam will be comprehensive in that it will require knowledge of all of the material of the course. However, the exam will focus primarily on the material after the midterm, while the pre-midterm material will be necessary tools/techniques in order to solve the problems of the final exam.

Accommodations:

Accommodations can be made for missed exams/assignments due to illness or other severe affliction, as well as conflicts with classes and religious observances. Accommodations will also be made for issues documented through CAL.

If you miss an exam or assignment, I expect you to contact me as soon as possible. If you anticipate missing a course requirement, you must contact me a reasonable time in advance. If an emergency occurs during a test, please talk to me. I can’t help if I don’t know about the problem.
University Regulations on Academic Integrity

These regulations are reproduced from [http://web.uvic.ca/calendar2011/FACS/UnIn/UARe/PoAtI. html](http://web.uvic.ca/calendar2011/FACS/UnIn/UARe/PoAtI.html). For full information, including procedures for dealing with academic integrity infringement, see the webpage linked above.

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. Any action that contravenes this standard, including misrepresentation, falsification or deception, undermines the intention and worth of scholarly work and violates the fundamental academic rights of members of our community.

Several types of academic integrity violations are covered in brief below.

**Plagiarism**

A student commits plagiarism when he or she:

- submits the work of another person as original work
- gives inadequate attribution to an author or creator whose work is incorporated into the student’s work, including failing to indicate clearly the inclusion of another individual’s work
- paraphrases material from a source without sufficient acknowledgement as described above

Students who are in doubt as to what constitutes plagiarism in a particular instance should consult their course instructor.

**Falsifying Material Subject to Academic Evaluation**

Falsifying materials subject to academic evaluation includes, but is not limited to:

- fraudulently manipulating laboratory processes, electronic data or research data in order to achieve desired results
- using work prepared by someone else (e.g., commercially prepared essays) and submitting it as one’s own
- citing a source from which material was not obtained
- using a quoted reference from a non-original source while implying reference to the original source
- submitting false records, information or data, in writing or orally

**Cheating on Assignments, Tests/Quizzes and Examinations**

Cheating includes, but is not limited to:

- copying the answers or other work of another person
- sharing information or answers when doing take-home assignments, tests and examinations except where the instructor has authorized collaborative work
- having in an examination or test any materials or equipment other than those authorized by the examiners impersonating a candidate on an examination or test, or being assigned the results of such impersonation
- **assisting others to engage in conduct that is considered cheating**