Dr. Tate Wilson

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Phone: 208-301-1323
Office: Charles House 208 and Rankin 101
Office Hours: MW\&F, 12-1 PM in Rankin 101, or by appointment.
Class Schedule: MWF, 2:40 - 3:50 PM
Classroom: MN 113
Credits: 4
Textbook: *Classical Dynamics of Particles and Systems*, 5\textsuperscript{th} Ed., Stephen T. Thornton and Jerry B. Marion.

**Overview**: An intermediate course in classical mechanics including Newtonian, Lagrangian, and Hamiltonian dynamics, coupled oscillations, waves, and rigid-body motion.

**Course/Learning Objectives**:

1. Understand the historical development of classical physics and its relation to modern physics.
2. Gain facility with the applications of differential equations to practical problems.
3. Build on your ‘toolbox’ of mathematical methods to apply to all physics and engineering problems.
4. Build familiarity with the various approximation methods employed prior to computers .
5. Learn when and how to effectively use computer numerical solutions to gain ground on otherwise intractable problems.

**Schedule**: This is a very tentative schedule of the material we will cover in the beginning of the semester, based on chapters in the textbook. We will cover all the material in the textbook during the semester, with the exception of chapters 4, 10, and 14.

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**Assessment**: Assessment of all learning objectives will mainly be in the form of quizzes and exams, while the homework is essential for your learning and will be graded mainly for completeness. Your work in the laboratory will be assessed separately by your lab instructor and included in your final grade with the weighting as follows.
Grading:

Quizzes 10%
Exams 40% 24 Feb and 7 Apr
Final Exam 30% 8 May, Main 113
Homework 20%

Letter Grades: All scores will be weighted and averaged and compared to this scale:
A (93-100), AB- (88-92), B (83-87), BC (78-82), C (70-77), D (60-69), F (<60)

Quizzes: There will be a quiz each week in class, with questions similar to those that will be on the exams.

Homework Assignments: The homework assignments will be be used to guide your studying for the exams. If you have completed and understood the homework, you should be prepared for the exams. Therefore the homework will be graded mostly for completeness. You are strongly encouraged to work together on the homework, but make sure that you understand all of the results.

Exams: There will be two mid-semester exams covering the topics immediately proceeding the exams. The exam questions will be straight from the homework with slight modification. Completing and understanding the homework is the best way to prepare for the exams.

Final Exam: The final exam (8 May, Main 113) will be much like the mid-semester exams, except it will be cumulative and longer.

Academic integrity: The Carroll University Academic Integrity Policy is located in the student handbook: https://my.carrollu.edu/ICS/icsfs/Student_Handbook_14-15_Updated . Please familiarize yourself with it. Carroll University emphasizes that students have an obligation to conduct their academic work with honesty and integrity. All acts of academic misconduct are serious. If you have any questions about appropriate citations, please ask.

Accommodations: Students with disabilities who may need accommodations or any student considering obtaining documents should make an appointment with the Walter Young Center (262-524-7621) no later than the first week of class.

The instructor and the University reserve the right to modify, amend, or change the syllabus (course requirements, grading policy, etc.) as the curriculum and/or program require(s).