Instructor: Nelson Coates  
Office Location: Faculty Building, room 109B  
Telephone: (707) 654-1793 [office]  
(510) 292-3131 [cell]  
Email: ncoates@csum.edu  
Office Hours: Mon, Wed, Fri, 15:30 - 16:30, or by appointment. Also, if I’m in my office, chances are I can meet with you. Stop on by!  
Class Days/Time:  
Section 1 (class # 1036): M, W, F, 12:30 - 13:20  
Section 2 (class # 1037): M, W, F, 14:30 - 15:20  
Classroom:  
Section 1: Classroom Building Rm. 201  
Section 2: ABS Building Rm. 101  
Course Prerequisites: MTH 210, Concurrent enrollment in PHY 200L  

This course covers all things “classical mechanics” which includes forces, torques, and static equilibrium; constant, accelerated, and periodic linear and rotational dynamics; gravity; fluid statics and dynamics; elasticity; temperature, thermal expansion, and heat transfer. Whew, that’s a lot! 😊 We will be using the mathematics of calculus to find connections between these topics, and to greatly simplify the solutions to otherwise complex systems. We may not get to all of the topics, but will make sure that the most important topics for your future coursework are well covered.  

Moodle  
Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on Moodle. You are responsible for regularly checking Moodle for course updates.  

Student Learning Outcomes (SLO)  
Upon successful completion of this course, students will be able to:  
- Apply the scientific method and apply scientific reasoning to problems in Physics.  
- Solve quantitative physics problems and demonstrate reasoning clearly and completely. Integrate multiple ideas in the problem solving process.  
- Describe, explain and model static and dynamic physical systems in order to explain the behavior of real-world situations.
Textbook
We will be using a free, creative commons license textbook: *Calculus-Based Physics I* by Jeffrey W. Schnick. The .pdf version of the book is posted on Moodle, and also as a link under the materials page for this course in the bookstore.

On-Line Homework
On-Line Homework will be assigned through [Sapling Learning](https://www.saplinglearning.com). You will be required to register and pay for an access code to turn in your homework. More detailed information will be posted to Moodle during the first week of instruction.

Classroom Leadership
As future leaders, I expect you to treat all people with respect; your superiors, your subordinates, and your peers. Any behavior I witness that is disrespectful on the basis of age, disability, nationality, race/ethnicity, religion, veteran status, gender, gender identity, or sexual orientation will result in immediate dismissal from my class and disciplinary action. My classroom is a safe-space.

Academic Integrity
Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. Suspected cheating of any form is always immediately brought before the Committee on Academic Integrity. I appreciate any suggestions you may have to help reduce the temptations and opportunities of academic dishonesty. The University’s Academic Integrity Policy is available at [Academic Integrity Policy](https://www.berkeley.edu/departments/academic-integrity-policy).

Field Trip
The bay area is home to many exciting real-world physics research and outreach opportunities. Time and coursework permitting, we will schedule a non-mandatory field trip outside of class time to visit the Molecular Foundry at Lawrence Berkeley National Lab and see some of the cutting-edge nanoscience research being conducted there. [http://foundry.lbl.gov/]

Attendance
If you need to miss a class, please let me know beforehand so that I can make sure you are up-to-date with the materials/quizzes that you may miss. Students who miss four consecutive sessions without contacting the instructor may be administratively dropped from the course and receive either a W (withdrawal) or WU (withdrawal unauthorized, equivalent to an F grade). Students who miss more than 14 class sessions (25%), may be administratively dropped from the course.

Student Response System
We will be using Baseline from Campus Labs for in-class “clicker” type questions. More details to follow. Responses to these questions will be used for attendance tracking as well.

Dropping and Adding Classes
Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information on add/drops are available on the campus website and at: [Add/Drop Policy](https://www.berkeley.edu/departments/add-drop-policy). Students should be aware of the current deadlines and penalties for adding and dropping classes.
Assignments and Grading

Quizzes (10% of Grade): There will occasionally be short pre-lecture quizzes.

Homework (25% of Grade): Homework will be assigned roughly every Wednesday, and generally be due one week from assignment. Homework may consist of either Sapling On-Line questions, or questions that I will prepare and grade.

Midterm Exams (40% of Grade): There will be three midterm exams. You may bring a calculator to the exams, but may not share it with anybody else.

Final Exam (25% of Final Grade): The final exam will be comprehensive and will cover all topics studied in the course. You may bring a calculator to the final exam, but you may not share it with anybody else.

Important Dates:

9/7 : Labor Day Holiday (University Closed)
9/14 : Last day to add/drop class
-9/23: Midterm Exam I
-10/21: Midterm Exam II
11/11: Veterans Day Holiday (University Closed)
-11/18: Midterm Exam III
11/26-27: Thanksgiving Holiday Recess (University Closed)
12/11: Last day of Fall instruction
12/13-16: Final Exam Period

PHY 200 - Engineering Physics I, Fall Semester 2015, Course Schedule

The following is a tentative course outline. The schedule and logistics of the course is subject to change. Announcements about any changes will be made in class. Students are responsible for keeping themselves informed about assignments, announcements and topics covered during any missed classes.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chapter 6 : 1-Dimensional Motion - Intro</td>
</tr>
<tr>
<td>2</td>
<td>Chapter 6/7/9 : 1-Dimensional Motion - Acceleration</td>
</tr>
<tr>
<td>3</td>
<td>Chapter 6/7/9 : 1-Dimensional Motion - Acceleration</td>
</tr>
<tr>
<td>4</td>
<td>Chapter 10 : 2-D Acceleration</td>
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<tr>
<td>5</td>
<td>Chapter 12 : Gravity Near the Surface of the Earth</td>
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<td>6</td>
<td>Chapter 13 : Freefall</td>
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<tr>
<td>7</td>
<td>Chapter 14/15/16 : Newtons Laws, Free Body Diagrams</td>
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<tr>
<td>8</td>
<td>Chapter 18/19/20 : Circular Motion</td>
</tr>
<tr>
<td>9</td>
<td>Chapter 18/19/20 : Circular Motion</td>
</tr>
<tr>
<td>Week</td>
<td>Topics, Readings, Assignments, Deadlines</td>
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<tr>
<td>------</td>
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<tr>
<td>10</td>
<td>Chapter 2/3 : Conservation of Energy</td>
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<tr>
<td>11</td>
<td>Chapter 2/3/4/5 : Conservation of Energy and Momentum</td>
</tr>
<tr>
<td>12</td>
<td>Chapter 4/5 : Conservation of Momentum</td>
</tr>
<tr>
<td>13</td>
<td>Chapter 24 : Work-Energy Theorem</td>
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<tr>
<td>14</td>
<td>Chapter 27/38 : Simple Harmonic Motion</td>
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<tr>
<td>15</td>
<td>Chapter 33 : Fluids</td>
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<tr>
<td>16</td>
<td><strong>Final Exams.</strong> Final Exam date and location to be announced</td>
</tr>
</tbody>
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### University Policies

**Campus Policy in Compliance with the American Disabilities Act**

*For Campus Policy in Compliance with the ADA section please substitute the following:
California Maritime Academy is committed to providing reasonable accommodations to students with documented disabilities. Students who believe they may need class accommodations are encouraged to contact the Disability Services Office (DSO) by email at [disabilityservices@csum.edu](mailto:disabilityservices@csum.edu) or in person in the Student Engagement & Academic Success Center (SEAS, Laboratory Building, First Floor) within the first two weeks of class. For more information, visit: [http://www.csum.edu/web/seas/disability-services](http://www.csum.edu/web/seas/disability-services).

*Services provided through the SEAS/DOS include:*

- Extended time for tests
- Tutoring
- Assistive Technologies/Software
- Proctored tests
- Access to course notes (when available)
- Low-distraction test environment

**NOTE:** Students requesting disability accommodations for testing must give a minimum of **5 business days** notice to the instructor, and if testing in the SEAS, to the SEAS as well. For clarification, contact Ms. Vineeta Dhillon [mailto:vdhillon@csum.edu](mailto:vdhillon@csum.edu)

### Student Technology Resources

Computer labs for student use are detailed below. Please see the postings outside the labs to see when classes are scheduled for these locations. Otherwise, hours are listed as below.

<table>
<thead>
<tr>
<th>Lab Name</th>
<th>Location</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Computer Lab</td>
<td>Classroom Building Room 105</td>
<td>24/7 Access via Portpass.</td>
</tr>
<tr>
<td>Lab 101</td>
<td>Laboratory Building Room 101</td>
<td>Open while building is open.</td>
</tr>
<tr>
<td>SEAS</td>
<td>Laboratory Building Room 114</td>
<td>Open while building is open.</td>
</tr>
</tbody>
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