Antelope Valley College
Fall 2018

Course Number: PHYS 120-02; CRN: 76339
PHYS 120-03; CRN: 75294

Instructor: Dr. Mark McGovern
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Phone: (661) 722-6300 x6006
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Office Hours (UH 262): MTWR 9:30 – 10:50 am
Also by appointment

Course Title: General Physics

Time: MW 11:00 am – 12:20 pm (lecture)
F 11:00am – 2:05pm (Section 02 lab)
F 7:45am – 10:50am (Section 03 lab)

Location: Lecture in UH 105
Lab in UH 251

Course Prerequisites: Completion of PHYS 110 and MATH 160 or concurrent enrollment.
Advisory: Eligibility for College Level Reading and ENGL 101 or satisfactory completion of ENGL 101.

Required Text: University Physics, Vol. 2 by Openstax ISBN (1680920421)

The textbook is an OER (Open Education Resource) which means the book is FREE in electronic form. To access the textbook or download a pdf copy to go the following:
If you prefer a printed copy of the textbook, you can get it through Amazon for ~$35 (paperback).

Course Description: This course is the second part of a three-semester calculus based introductory physics course for scientists and engineers. Topics covered are: Electrostatics, Electric Fields and Potentials, Capacitance, Resistance and current, DC Circuits, Magnetic Fields, Magnetic Induction, Maxwell's Laws, AC Circuits

Student Learning Outcomes:
1. Analyze the electric force and electric field created by a system of charged particles.
2. Evaluate the electric potential created by a system of charged particles.
3. Explain the origin of magnetic fields and calculate magnetic fields and forces.
4. Analyze and explain the behavior of DC circuits with resistors, capacitors, and batteries.
5. Analyze and explain the behavior of AC circuits with resistors, capacitors, and inductors.
6. Collect data, analyze it, and submit reports which demonstrate comprehension of the principles and processes involved.
7. Solve and assess solutions of physics problems by selecting the appropriate physics principles.
Methods of Evaluation and Grading:

Homework Assignments

Homework will be assigned every lecture day. Homework assignments are designed to evaluate your understanding of the material and reinforce conceptual principles. Homework will come from instructor created problems that directly reflect the material covered during lecture. Due dates for homework will be announced on the assignment date.

29 Problem sets (10 points each, lowest score dropped) .................................................. 280 pts

Lab Assignments

Labs are conducted on most Fridays. Lab assignments are to be completed and turned in before the end of lab. Lab homework, if applicable, is to be turned at the following lab. Your grade will be based on how well you perform the tasks assigned and how well you address the questions given to you in the lab assignment and subsequent homework assignment.

13 assignments (10 points each; lowest score dropped) ..................................................120 pts

Exams

Three exams will be given over the course of the semester to evaluate your understanding of the material up to that point. (Note some subject matter from earlier chapters might be included in later exams as it is a building block for the material in later chapters).

Exam 1 (Chapters 22 – 24) .................................................................................................100 pts
Exam 2 (Chapters 25 – 28) .................................................................................................100 pts
Exam 3 (Chapters 29 – 32) .................................................................................................100 pts

Total points .........................................................................................................................700 pts

Letter grade breakdown:

A: 90% – 99%,  B: 80% – 89%,  C: 70% – 79%,  D: 60% – 69%,  F: < 60%

If deemed necessary a re-normalization of the grades will occur when calculating the final grade whereby the highest grade becomes 100% and everyone else’s grade is adjusted to reflect the new standard. Note: This is not a “curve”.

Late work: Late homework and workbook will be not accepted as solutions will be posted immediately after the homework is due. Lab assignments must be completed before the lab session is finished. Exams can only be re-scheduled beforehand on a case-by-case basis for very compelling reasons. One score from each type of graded non-exam work will be dropped so don’t be too concerned if you miss one.

Lab Tardiness: It is important to arrive to lab on time so as you don’t miss any instruction regarding usage and safety of the lab equipment. As such, any student that is more than 5 minutes late to lab will not be able to participate in lab activities. They will be told to leave and will be marked absent.
**Semester Schedule:** All students are required to read the sections listed for that day and complete any assignments prior to coming to class.

<table>
<thead>
<tr>
<th>Week</th>
<th>Mondays</th>
<th>Wednesdays</th>
<th>Fridays (Lab)</th>
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<tr>
<td>1</td>
<td>8/20: Introduction, Review</td>
<td>8/22: Section 5</td>
<td>8/24: Lab 1 – Static Electricity</td>
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<td>2</td>
<td>8/27: Section 5</td>
<td>8/29: Section 5</td>
<td>8/31: Lab 2 – Error Analysis</td>
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<td>3</td>
<td>9/3: No class (Labor Day)</td>
<td>9/5: Section 5</td>
<td>9/7: Lab 3 – Charge and Electrostatic Force</td>
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<td>4</td>
<td>9/10: Section 5</td>
<td>9/12: Section 6</td>
<td>9/14: Lab 4 – Coulomb’s Law</td>
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<td>5</td>
<td>9/17: Section 6</td>
<td>9/19: Section 6, Review</td>
<td>9/21: Lab 5 – Millikan Oil Drop Experiment</td>
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<td>6</td>
<td>9/24: Exam 1</td>
<td>9/26: Section 7</td>
<td>9/28: Lab 6 – Equipotential Lines</td>
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<td>10/1: Section 7</td>
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<td>10/5: Lab 7 – Capacitance</td>
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<td>10/8: Section 7</td>
<td>10/10: Section 8</td>
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<td>10/15: Section 9</td>
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<td>10/19: Lab 9 – Real Time Physics: Batteries, Bulbs, and Current</td>
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<td>10/26: Lab 10 – Real Time Physics: Current in Simple DC Circuits</td>
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<td>10/29: Section 10, Review</td>
<td>10/31: Exam 2</td>
<td>11/2: Lab 11 – Gryomotion</td>
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<td>12</td>
<td>11/5: Sections 11, 12</td>
<td>11/7: Sections 11, 12</td>
<td>11/9: Lecture - Sections 11, 12</td>
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<td>13</td>
<td>11/12: No class (Veterans Day)</td>
<td>11/14: Sections 11, 12</td>
<td>11/16: Lab 12 - Measurement of e/m</td>
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<td>11/19: Sections 13, 14</td>
<td>11/21: Sections 13, 14</td>
<td>11/23: No class (Thanksgiving)</td>
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<td>11/26: Sections 13, 14</td>
<td>11/28: Sections 13, 14</td>
<td>11/30: Lab 13 – Transformers</td>
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<td>16</td>
<td>12/3: Section 15, Review</td>
<td>12/5: Section 15, Review</td>
<td>12/7: Exam 3</td>
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**Important Campus-Wide Dates:**

- Last day to drop without a "W" – **Sept 3rd**
- Last day to drop with a "W" – **Nov 9th**
Absences: You are expected to regularly attend class and complete assigned coursework, as these are part of your responsibilities as a student in this college. Attendance will be taken at the beginning of each class and students not present will be marked absent. If you arrive late then inform me after class is over so you will be marked late instead of absent.

Students with more than 2 absences may be dropped for lack of participation as permitted in the college attendance policy. If this occurs after the drop date then you will receive an F grade. Based on past experience, I have found it to be extremely difficult to pass this class if you are excessively absent. In all cases talk to me about your situation and I'll try to be flexible.

Do not assume that if you stop attending class I will drop you from the course. I may drop you. It is entirely your responsibility to drop yourself from a class if you wish to do so.

On-campus resources: If you need assistance in refreshing your math, reading or writing skills, check with the Learning Center for free tutoring and make sure you attend it regularly. Open computer labs with print services can be found in rooms BE 317, BE 320, 2nd floor of Uhazy Hall and at the Palmdale Campus. Computers and print services are available for students at the Instruction Media Center (IMC), first floor Business Education Building. Computers are also available for use at the Learning Center. Check with the facilities for hours and availability.

Reasonable Accommodation for Disabled Students: If you have a legally protected disability under the Americans with Disabilities Act (ADA) or California discrimination law, and believe you need reasonable accommodations to participate fully in this class, please make an appointment to see me during office hours to discuss your need or see me after class.

Academic Violations (From the College Catalog): Dishonesty, including but not limited to cheating, or plagiarism. Plagiarism- from the Latin word for “kidnap”- involves using another’ work without giving proper credit, whether done accidentally or on purpose. This includes not only words and ideas, but also graphs, artwork, music, maps, statistics, diagrams, scientific data, software, films, videos, and the like. Plagiarism is plagiarism whether the material is from published or unpublished sources. It does not matter whether ideas are stolen, bought, downloaded from the Internet, or written for the student by someone else- it is still plagiarism. Even if only bits and pieces of other sources are use, or outside sources are reworded, they must still be cited. To avoid problems, students should cite any sources and check with the instructor before submitting any assignment of project. Students are always responsible for any plagiarism in their work. An instructor who determines that a student has cheated or plagiarized has the right to give an F grade for the assignment or examination. Students are encouraged to review the entire Guidelines for Student Conduct found in the College Catalog.

Final Thoughts: The best way to ensure success in my class is by reading your textbook, coming to class everyday, on time, participate by taking notes in class, ask questions if material is unclear, and completing homework, and lab assignments. The number one reason students do not succeed in this class is that they do not put forth effort in the aforementioned categories. Communication with me is strongly recommended so I can address any issues you are having with the material and/or schedule.

Oral agreements with the instructor should not be considered binding in anyway. Formal arrangements need to be made in writing either in person or by e-mail (with confirmation).

Emergency Contact Information for AVC
"For all EMERGENCY and URGENT situations contact:
AVC SHERIFF’s OFFICE (661) 722-6399 OR Extension 4444 from a campus telephone"