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Office Hours: Tu 9:00-11:00, W 11:30-12:30, and by appointment.  
Meetings: MWF 10:20–11:20 in Galileo 201  
Textbook: *Physics* (6th Ed.) by Giancoli  
Webpage: <http://physics.stmarys-ca.edu>

**Course Description:** This course is the second semester of an introduction to physics for students majoring in the life sciences. This semester's topics include thermodynamics, electricity, magnetism, wave optics, and geometric optics. Prerequisites: Students must have completed or be currently enrolled in Math 28 and and have completed Physics 10 with a grade of C- or better to take the course.

**Homework:** The only way to learn physics is to do homework on a regular basis—most of the learning you do will be outside of class while solving problems. This is also the best way to prepare for exams. You should at least do all of the odd problems from the sections in the text that we cover. Specific problems will also be assigned daily and then collected once per week. Some students put off homework and try to do all the assigned problems in one day—DO NOT DO THIS! It is best to do a few problems every day.

**Exams:** There will be 3 one-hour exams given during the semester and a comprehensive two-hour final exam (*Final Exam is on Monday, May 18 at 11:30am*). No make-up exams will be given. However, your lowest one-hour exam score (percentage) will be replaced by the final score (percentage) if the final score is higher.

**Grading:** Your course grade will be computed as follows:

|            |     |
|------------|-----|
| Final Exam | 25% |
| Hour-Exams | 50% |
| Homework   | 15% |
| Quizzes    | 10% |
| Labs       | +0– |

Short quizzes on homework and class material will be given nearly every week. These quizzes will be given at the beginning of the lab period—so, don't be late for lab!

The evaluation of your work in lab will be done using a High Pass/Pass/Low Pass system, and will raise (mostly HP) or lower (mostly LP) your grade by 1/3 of a grade point, or not affect your grade at all (P). You will receive the same grade in lab and lecture.

Throughout the semester you can check your grade record on the website. Let me know of any discrepancies in your grade record.

**Students with Disabilities:** Reasonable and appropriate accommodations, that take into account the context of the course and its essential elements, for individuals with qualifying disabilities, are extended through the office of Student Disability Services. Students with disabilities are encouraged to contact the Student Disability Services Coordinator at (925) 631-4164 to set up a confidential appointment to discuss accommodation guidelines and available services. Additional information regarding the services available may also be found on the Saint Mary's website.

| Date     |               | Topics                                      | Text             | Lab                          |
|----------|---------------|---|------------------|------------------------------|
| M        | Feb. 9        | Temperature; Thermal Expansion              | 13.1-3; 13.4-5   | Thermal Expansion            |
| W        | Feb. 11       | Gas Laws; Heat and Energy                   | 13.6-9; 14.1-2   |                              |
| F        | Feb. 13       | Calorimetry; Heat Transfer                  | 14.3-5; 14.6-8   |                              |
| M        | Feb. 16       | 1 <sup>st</sup> Law of Thermodynamics       | 15.1-3           | Calorimetry                  |
| W        | Feb. 18       | 2 <sup>nd</sup> Law of Thermodynamics       | 15.4-6           |                              |
| F        | Feb. 20       | Electric Charge and Force                   | 16.1-4           |                              |
| M        | Feb. 23       | Electric Force: Vectors!                    | 16.5-6           | Static Electricity           |
| W        | Feb. 25       | Electric Force                              | 16.11-12         |                              |
| F        | Feb. 27       | Electric Field                              | 16.7-9           |                              |
| M        | Mar. 2        | Electric Force: Applications                | 16.11-12         | Vector Problems              |
| W        | Mar. 4        | Exam Prep                                   |                  |                              |
| F        | Mar. 6        | <b>EXAM I</b>                               |                  |                              |
| M        | Mar. 9        | Electric Potential                          | 17.1-4           | Electric Potential           |
| W        | Mar. 11       | Charge Distributions and Electric Potential | 17.5-6           |                              |
| F        | Mar. 13       | Capacitance; EKG                            | 17.7&17.9; 17.11 |                              |
| M        | Mar. 16       | Electric Current; Ohms Law                  | 18.1-2; 18.3-4   | DC Circuits                  |
| W        | Mar. 18       | Power and DC/AC current                     | 18.5-7           |                              |
| F        | Mar. 20       | Nervous System                              | 18.10            |                              |
| M        | Mar. 23       | DC Circuits                                 | 19.1-19.2        | Capacitor Circuits           |
| W        | Mar. 25       | Kirchhoff's Circuit Rules                   | 19.3-4           |                              |
| F        | Mar. 27       | Capacitor Circuits; Meters                  | 19.5-6;19.7-8    |                              |
| M        | Mar. 30       | Magnetic Fields and Forces                  | 20.1-20.3        | Magnetic Fields and Forces   |
| W        | Apr. 1        | Exam Prep                                   |                  |                              |
| F        | Apr. 3        | <b>EXAM II</b>                              |                  |                              |
| M        | Apr. 6        | <b>Easter Break</b>                         |                  |                              |
| W        | Apr. 8        | <b>Easter Break</b>                         |                  |                              |
| F        | Apr. 10       | <b>Easter Break</b>                         |                  |                              |
| M        | Apr. 13       | <b>Easter Break</b>                         |                  | No Lab                       |
| W        | Apr. 15       | Fields and Configurations                   | 20.4-20.7        |                              |
| F        | Apr. 17       | The Mass Spectrometer                       | 20.11            |                              |
| M        | Apr. 20       | Induced EMF                                 | 21.1             | Magnetic Induction           |
| W        | Apr. 22       | Faraday's flux rule and Lenz's law          | 21.2-21.4        |                              |
| F        | Apr. 24       | Electric Generators and other Effects       | 21.5-21.8        |                              |
| M        | Apr. 27       | Electromagnetic Waves                       | 22.1-22.4        | Reflection and Refraction    |
| W        | Apr. 29       | Light Rays and Reflection                   | 23.1-23.2        |                              |
| F        | May 1         | Mirrors and Ray Diagrams                    | 23.3             |                              |
| M        | May 4         | Refraction                                  | 23.4-23 .6       | Lenses                       |
| W        | May 6         | Lenses                                      | 23.7             |                              |
| F        | May 8         | <b>EXAM III</b>                             |                  |                              |
| M        | May 11        | Double Slit Interference                    | 24.3-4           | Interference and Diffraction |
| W        | May 13        | Diffraction                                 | 24.5             |                              |
| F        | May 15        | Thin Films                                  | 24.8             |                              |
| <b>M</b> | <b>May 18</b> | <b>Final Exam 11:30-1:30</b>                | <b>13.1-24.8</b> |                              |