INSTRUCTOR: Neal Wilsey, Ph. D.

OFFICE: Room 201, Bldg. B, Leonardtown Campus

TELEPHONE: Office, Voice Mail: (301) 475-6707 Ext. 6541 St. Mary’s County
            (301) 934-1860 Ext. 6541 Charles County
            (301) 870-2309 Ext. 6541 DC area

EMAIL: nealw@csmd.edu

WEB SITE: http://www.itc.csmd.edu/mth/nealw/

OFFICE HOURS: Monday: and Wednesday: 11:45 a.m. – 12:30 p.m.
              Tuesday and Thursday: 12:30 p.m. – 1:30 p.m.
              Tuesday: 3:45 p.m. – 5:15 p.m.
              Other times by appointment

COURSE DESCRIPTION: This lab is designed to accompany the course: PHY 1010 – Fundamentals of Physics I. Specifically, the course covers such mechanical concepts as vectors, measurements, linear motion, circular and rotational motion, friction, work, and properties of materials.

PREREQUISITES: PHY 1010 taken in the same semester or in a previous semester.

CREDIT HOURS: 1

CLASS SESSIONS: Section 31941, Tuesday 3:30 p.m. – 5:30 p.m.

GENERAL EDUCATION: The faculty of The College of Southern Maryland has prepared a statement of what it considers to be the components of general education for all students who graduate from one of our two-year programs. This statement appears in the current College Catalog. While no single course can be expected to address all of these components, the sum of the courses a student takes should allow ample opportunity for all components to be experienced. In PHY1010L lab, students will have the opportunity to:

15. perform mathematical operations accurately;
16. make mathematical estimates and approximations to judge the reasonableness of results;
17. interpret graphs, tables and charts;
18. understand mathematical information and
19. utilize appropriate mathematical models to solve problems while recognizing the assumptions and limitations of the models
24. select and use appropriate instruments to measure and observe objects and phenomena;
25. describe their observations and measurements accurately using appropriate terms and units;
27. evaluate the significance of conclusions reached;
35. apply appropriate theories to solve problems;
57. identify, define, evaluate and solve problems;
58. compare, contrast and classify information and concepts;
59. recognize cause and effect;
69. understand methodologies of natural science;

TEXT: FUNDAMENTALS OF PHYSICS I, II LAB REPORTS. (Available in the College Bookstore).

MATERIALS: Scientific Calculator (Required); Pencil and Eraser (Required).

PERFORMANCE EVALUATION: Student performance will be based entirely on graded lab reports. There are eleven graded laboratory assignments and each report will be graded on a scale from 0 to 10. The lowest lab grade will be dropped. The first lab session is an introduction and safety orientation that will not be graded.

Final grades will be assigned as follows:

- 90 – 100% A
- 80 – 89% B
- 70 – 79% C
- 60 – 69% D
- Below 60% F

LAB REPORTS: Handouts for each lab experiment will be distributed during the previous lab session. The lab experiments should be read and understood before coming to class. Each lab report consists of the following six parts:
1. Objective
2. Procedure
3. Data
4. Calculations
5. Conclusions
6. Answers to Questions (when assigned)

All data and calculations should be done on the handout in pencil and should be neat and legible. Final conclusions are to be typewritten on a separate sheet of paper and attached to the lab handout. A good conclusion should start with a review of the intent and procedure of the lab exercise. This should be followed by an analysis of the lab results.
This analysis must include a summary (listing) of the specified principal quantitative results (experimentally determined final values) and should include a quantitative error analysis when applicable. Lab reports are due at the beginning of the subsequent lab period. Reports may be turned in up to two weeks late but late reports will be given a 20% penalty. Lab reports may not be turned in later than two weeks past the original due date.

ATTENDANCE POLICY: Attendance will be taken at each lab session. Each student is responsible for all lab assignments and must participate in the data collection phase of every laboratory experiment.

AUDIT AND WITHDRAWAL POLICY: Students are reminded to consult the College Catalog for dates, procedures, responsibilities and impacts of changing registration status. April 19 is the last day to withdraw from a course or change from AUDIT status to CREDIT status or from CREDIT to AUDIT. Performance requirements are the same for auditing students as for students taking the course for credit. Failure of an auditing student to meet performance requirements can result in a grade of W for the course.

LAB MAKEUP POLICY: Missed labs may be made up at the instructor’s discretion. This will usually be done during another lab session or during the final two weeks of class.

STUDENT INTEGRITY POLICY: Students are expected to work together in lab groups during the initial data collection phase of the labs. Final calculations and conclusions, however, are to be completed and recorded independently by each student. Any violations of the Student Code of Conduct as outlined in the Student Handbook result in a score of zero for the exam or quiz. The violation will be reported to the Director of Student Affairs and to the College Judicial Committee for review and possible disciplinary action.

DISABILITIES AND SPECIAL NEEDS: Students with disabilities who believe that they may need accommodations in this class are encouraged to contact Disabled Student Services in the Learning Assistance Department at 301.934.7614 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.

UNAUTHORIZED PERSONS: Unauthorized persons (children, friends, family members, and any other persons not registered for the course) are not allowed in the classroom. Details of this college policy can be found in the Student Handbook.
## LAB SCHEDULE

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<thead>
<tr>
<th>Week</th>
<th>Lab No.</th>
<th>Lab Topic*</th>
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<tbody>
<tr>
<td>1</td>
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<td>Introduction, Safety (no lab report assigned)</td>
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<td>2</td>
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<td>Measurement of Length, Mass, Volume and Density</td>
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<td>3</td>
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<td>Uniformly Accelerated Motion – Objects in Free Fall</td>
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<td>4</td>
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<td>Addition of Vectors – Equilibrium of a Particle</td>
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<td>5</td>
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<td>Projectile Motion</td>
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<td>6</td>
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<td>Newton’s Second Law: F=ma</td>
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<td>7</td>
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<td>Simple Machines and the Principle of Work</td>
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<td>8</td>
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<td>Conservation of Energy and Momentum</td>
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<td>9</td>
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<td>Uniform Circular Motion</td>
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<td>10</td>
<td>10</td>
<td>Equilibrium of a Rigid Body</td>
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<td>11</td>
<td>11</td>
<td>Hooke’s Law**</td>
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<td>12</td>
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<td>Archimedes’s Principle</td>
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<td>13</td>
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<td>Make-up Labs</td>
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<td>14</td>
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<td>Last Day to Turn in Lab Reports</td>
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*Lab assignments are subject to change depending on availability of equipment.

**Handout provided by instructor