

SCI 102 - Electricity with Chemical and Biological Applications

Fall 2013

This is an inquiry-based science course intended for elementary education majors. It is divided into three main laboratory parts and a group project at the end:

Part I: Concepts of Electricity (Physics)	Aug 27 - Sept 24
Part II: Chemical Applications	Sept 26 - Oct 29
Part III: Biological Applications	Oct 31 - Dec 3
Group Projects & Presentations	Dec 5 & Finals Week

There will be an examination on the last day of each laboratory part. Each instructor will give you more detailed information about other requirements for his/her part of the course - such as journals, lab reports, quizzes, etc. The final examination for the whole course will consist of a group project and a presentation; this will count as 10% of your overall course grade. The remainder of your course grade will be 30% of your physics grade, 30% chemistry, and 30% biology.

The hands-on, cooperative experience in class, the written assignments and the group project are designed to allow students to achieve the following Goals of General Education Courses:

- 1) Communicate effectively
- 2) Employ quantitative analysis and mathematical methods
- 3) Think critically and analytically.

Attendance Policy:

Due to the highly interactive nature of this course, attendance is essential. If you are unable to attend class, contact the instructor before class or as soon after class as possible. *It is your responsibility to keep up with the course material.* It is, however, the instructor's decision whether laboratory work and/or other assignments can be made up, the due date, and any penalty associated with the student's absence. Excused absences, in accordance with the Excused Absences Policy for University-Sanctioned Events (see Undergraduate Catalog or Ram's Eye View), will not result in a penalty, provided that the student follows this policy.

SCI 102 Electricity - Part I: Concepts of Electricity - Fall 2013

Instructor: Dr. Gary J. Pascuzzo

Office: Merion 102, phone ext. 6932

Office Hours: Tuesdays & Thursdays, 8:00-9:00am & 5:00-6:00pm, and by appointment

E-mail: gpascuzzo@wcupa.edu

Required Text: *SCI102 Part I: Concepts of Electricity* available at Dynamic Student Services Bookstore

Schedule

Date	Subject	Text Sections
Aug 27	<i>Introduction, Batteries & Bulbs</i>	<i>E1.1 - 1.5</i>
Aug 29	Batteries & Bulbs	E1.6 - 1.8
*Sept 3	Obstacleness & Oomph	E2.1 - 2.3
Sept 5	Capacitors	E3.1 - 3.3
*Sept 10	Electric Charge	E4.1 - 4.3, 4.6, 4.7
Sept 12	Batteries, Bulbs & Capacitors	E5.1, 5.2, 5.4
*Sept 17	Charge vs Fluid Model, Ohm's Law	E5.3
Sept 19	Physics "Fun Day" Review	
Sept 24	Physics Final Exam	

Grading: There will be 3 Journals (worth 10 points each), 4 unannounced Quizzes (10 points each), and a Final Exam (30 points).

***Journals Are Due:** These are your observations, hypotheses, data and assignments for the previous week's labs. They can be written out by hand or printed from a word processor - usually from 2 to 4 pages in length - and are due on a Tuesday. For instance, Journal #1 covers the first week's labs (Aug 27 & 29) and is due on Tuesday, Sept 3.