# Physical Science 110 - *Physical Science* – Spring 2013

Instructor: **Dr. Russell J. Lavery** Office: Rm. 2777 (2700 Building)
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**Office Hours**: Monday: 2:00 to 3:00 PM Tuesday: 9:00 to 10:00 AM
Wednesday: 10:30 to 11:30 AM Thursday: 9:00 to 10:00 AM

Appointments can also be made if you cannot make these office hours. I am usually in my office when I am not in class. You can always come by and check if I am in.

**Class Meetings**: Monday – Wednesday: 3:05 pm to 4:30 pm -- Room 2731-- (Bldg 2700)

Course Code and Credit Hours: Code # 20248 -- 3 Credits (Letter Grade)

**Textbook**: ***Conceptual Physical Science***, 4th or 5th edition, by Hewitt, Suchocki & Hewitt.
**978-0-32-75334-2**
Two copies of the 3rd edition textbook are on reserve in the library for reading.

**Course Description**: This is a lecture/demonstration/exercise course designed to provide an understanding of the fundamental principles of physics and chemistry as they relate to the structure and properties of matter and the principles of motion and energy for the Liberal Studies student.

**Course Objectives**: Aspects of this course incorporate and are designed to improve the five IVC Institutional Student Learning Outcomes skills of the students in this class:

Communication Skills
* Develop vocabulary and language skills to explain scientific principles

Critical Thinking Skills
* Develop the ability to apply the logic of scientific inquiry
* Use quantitative reasoning to solve problems and to interpret the results.

Personal Responsibility
* Attend class regularly
* Complete assignments by due date
* Do your own work, not copy another assignment

Information Literacy

Global Awareness.

Student Learning Outcomes: With successful completion of this course, the student will be able to:

- conceptualize the fundamental differences between mass and weight and between speed and velocity, using illustrative examples.

- comprehend and apply the principle of Conservation of Energy to simple machines, e.g. levers.

- distinguish between series and parallel circuits, identifying their advantages and disadvantages.

**Attendance Policy**: Regular attendance is **REQUIRED.** You will be dropped from this course if you miss **THREE (3) consecutive** class meetings! A pattern of missed classes, such as missing Mondays, will also result in being dropped.

**Course Grading**:

| | |
|---|---|
| 5 Exams (4 mid-terms and 1 final exam) | |
| 4 highest scores will be worth 15% each | **60%** |
| Homework Exercises | **20%** |
| Quizzes | **10%** |
| In-Class Exercises | **5%** |
| 1 Written Assignment | **5%** |
| | --- |
| TOTAL | **100%** |

Exam Policy: If you miss an exam without prior approval, you **must** e-mail me or call me and leave a message **AS SOON AS POSSIBLE**! If you just wait until the next class meeting to talk with me, you will not be allowed to take the exam.

Homework Policy: Copying assignments is in violation of the academic policy of this college! Copying will result in grades of **ZERO** for **ALL** involved. If repeated incidents occur, those involved will be reported to the Student Affairs office for removal from this course.

Cheating and/or Copying: In cases of cheating during exams or copied homework, the zero grade given for that exam or assignment **will be included** in the student's overall grade. Such zero grades will not be dropped or excluded in the determination of the final course grade.

Quizzes: You should expect a quiz at the beginning of **EACH CLASS**! These will be on the material discussed in the previous class and/or the reading you should have done before coming to class. **READ** and **REVIEW** before coming to class!

Extra Credit: As only 4 of your 5 exams will count toward your final grade, there will not be any extra credit.. There are **no projects or papers** for extra credit!

Classroom Behavior: Politeness is important!! If you yawn, cover your mouth and keep quiet!

Talking while I am presenting course material should be kept at a minimum! Talking during group exercises and worksheets is required!

The classroom is NOT a lunch room. Drinks only! No slurping!

Cell phones should be turned off or set to Vibration Mode. My class is more important than your phone call. If your cell phone goes off during an exam, you will be done with the exam and hand it in. So, turn it off!

Coats, backpacks, purses and other such things will be placed on the floor during class. Note-taking material should be on the desk, that's all.

Boyfriend-girlfriend: Hands to yourself. No squeezing during class. Expect not to sit next to each other during exams and quizzes.

Important Withdrawal Dates: Last day to withdraw without W on transcript: Sunday, Jan. 27th.
Last day to withdraw with W on transcript: Friday, April 12th.

Outside the Classroom: The general guide for a college level course is that students should spend **TWO HOURS** outside the classroom on the course for each hour in the classroom. As this course meets for 3 hours a week, this is **SIX HOURS** per week. If you are not spending at least 3 to 4 hours each week outside the classroom on this course, you are **not meeting your responsibility** as a student in this course. This is **NOT** just time on homework, but means reading, studying and reviewing!

Any student with a documented disability who may need educational accommodations should notify the Instructor and the Disabled Student Programs and Services (DSP&S) Office as soon as possible. The DSP&S Office is in Rm 2117 of the Health Sciences Building (355-6312).

# Physical Science 110 -- Spring 2013—MonWed Course Syllabus

| DATE | SUBJECT | READINGS (5th Ed.) |
|---|---|---|
| Jan 14 M | Introduction | |
| 16 W | Properties of Motion & Equilibrium I | Sec. 1.1 through 1.5 |
| 21 M | *HOLIDAY* | |
| 23 W | Properties of Motion & Equilibrium II | Sec. 1.6 through 1.10 |
| 28 M | Newton's Laws of Motion | Sec. 2.1 through 2.5 |
| 30 W | Vectors | Class Notes |
| Feb 4 M | Work, Energy, Conservation of Energy & Power | Sec. 3.4 through 3.7 |
| 6 W | Machines | Sec. 3.8 |
| 11 M | Newton's Law of Gravity | Sec. 4.1 through 4.4 |
| **13 W** | **First Mid-Term Exam** | |
| 18 M | *HOLIDAY* | |
| 20 W | Basics of Thermodynamics | Chap. 6 |
| 25 M | Methods of Heat Transfer | Sec. 7.1 through 7.4 |
| 27 W | Energy and Changes of Phase | Sec. 7.6 through 7.9 |
| Mar 4 M | Static Electricity | Sec. 8.1 through 8.5 |
| 6 W | Current Electricity I | Sec. 8.6 through 8.10 |
| 11 M | II | Sec. 8.6 through 8.10 |
| **13 W** | **Second Mid-Term Exam** | |
| 18 M | Waves and Sound I | Sec. 10.1 through 10.4 |
| 20 W | Waves and Sound II | Sec. 10.5, 10.6, 10.8, 10.9 |
| 25 M | Light Waves | Sec. 11.1, 11.5, 11.6, **10.7** |
| 277 W | Properties of Light | Sec. 11.3, 11.4, 11.6, 11.7 |
| Apr 1 M | *Spring Break* | |
| 3 M | *Spring Break* | |
| 8 M | Introduction to Atoms | Sec. 12.1 through 12.3 |
| 10 M | **Third Mid-Term Exam** | |
| 15 M | The Periodic Table | Sec. 12.4 |
| 17 W | Atomic Models | Sec. 12.5 |
| 22 M | The Nucleus of the Atom | Chap. 13 |
| 24 W | Elements of Chemistry | Chap. 14 |
| 29 M | Atomic Bonds | Chap. 15 |
| **May 1 W** | **Fourth Mid-Term Exam** | |
| 6 M | Final Exam Preparation | |
| **8 W** | **Final Exam** | |
| | | |
| | *Topics if Time is Available* | |
| | Chemical Reactions | Chap. 17 |
| | Acids & Bases I | Sec. 18.1 through 18.4 |

**Web Page: http://spaces.imperial.edu/russell.lavery/PS110/front110.html**