SYLLABUS for PHSC 170
California State University Channel Islands
Fall 2017
M/W 12:00 PM - 1:15 PM – Sierra 2422

Dr. David Nelson
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Office Hours: Monday / Wednesday 7:30 AM – 9:00 AM, 1:30 PM – 3:00 PM : BTE 2808
Or By Appointment
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Course Title: Foundations of Physical Science

Course Description: This course is intended to prepare students in the Teaching and Learning Emphasis of the Liberal Studies program for the physical sciences subject matter requirements for the Multiple Subject Teaching Credential. Upon completing this course, students should be able to do the following:

- Use scientific vocabulary appropriately
- Communicate scientific concepts to peers and students at the K-8 levels
- Explain fundamental concepts in physics and chemistry
- Perform in depth analysis based on concepts
- Plan and conduct a science classroom activity
- Liberal Studies Program Learning Outcome #4: Demonstrate content area knowledge related to the California Commission on Teacher Credentialing content standards for the Multiple Subject Teaching Credential

Required Text: Hewitt P. G.; Suchocki, J.; Hewitt, L.A. "Conceptual Physical Science - Explorations", Addison Wesley, San Francisco, CA 2010. Other options will be discussed in first class.

Grading:

The course grade will be assigned using the following table:

Total %	100-98	97-92	91-90	89-88	87-82	81-80	79-78	77-72	71-70	69-68	67-62	61-60	59-0
Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

The course grade will be based on examinations, attendance, positive participation in classroom discussions, class presentations, laboratory activities, and WEB postings. Opportunities for extra credit will be provided.

	Points
5 Exams (100 points each)	500
Attendance/Participation	100
Labs	100
Class Presentation - Physics	125
Class Presentation - Chemistry	125
Web Postings	50
Total	1000

Expectations

Class meetings will combine lecture, discussions (small group and whole class), and laboratory activities. You will be asked to work collaboratively with your peers for in-class assignments. It is therefore important that you attend all classes. The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop an understanding of the community in which they live. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from the class.

All reading assignments must be completed before the corresponding discussion/lecture. All of the exam material is in the book; the class activities are designed to illuminate and not replace it. Students are encouraged to raise questions during the discussions when concepts are unclear or need more elaboration. Furthermore, the discussions will be much more fun if you are already familiar with the material. This course is a conceptual course which means you must be able to perform in depth analysis of the concepts to answer the questions in the exams. While this is not a math intensive course, there will be some math requiring only the most basic algebra skills. There will be some arithmetic; therefore calculators will be permitted during exams. Each student will make two presentations (Liberal Studies Signature Assignments) during the semester that require class participation and have a written component that you will provide for the rest of your class. Following the instructions carefully will produce the greatest success. The lab activities, WEB postings, and presentations are designed to provide resources that you can apply directly to your future classes and students. Make the most of this opportunity. Since 50% of your grade is determined by activities you participate in or present to the class, it is imperative that you attend all of the classes and remain for the entire class (leaving early and arriving late could result in loss of points). While allowance is made for a reasonable number of absences (3), your presence and participation in the classes and labs does account for 20% of your grade.

Students with Disabilities

Upon identifying themselves to the instructor and the University, students with disabilities will receive reasonable accommodation for learning and evaluation. If this applies to you, please contact me as early as possible. You may also contact: terri.goldstein@csuci.edu or (805) 437-8528.

Academic Dishonesty

In accordance with the CSU Channel Islands policy on academic dishonesty, students in this course who submit the work of others as their own (plagiarism), cheat on tests and examinations, help others to cheat or plagiarize, or commit other acts of academic dishonesty may receive appropriate academic penalties, up to and including failing the course. Plagiarism or cheating on exams or written assignments will result in an "F" on that assignment and will likely affect the final grade for the course.

PHSC 170-01
Tentative Course Content and Schedule

Date	Topic		Reading due
M 8/28	Introduction- Physical Science and Experimental Method		Ch 1
W 8/30	Newton's First Law		Ch 2
M 9/4	**Labor Day**		
W 9/6	Newton's Second Law		Ch 3
M 9/11	Newton's Third Law		Ch 4
W 9/13	Momentum		Ch 5
M 9/18	Energy		Ch 6
W 9/20	**Examination I – Ch 1-5**		
M 9/25	Gravity, Projectiles, and Satellite Motion		Ch 7
W 9/27	Fluid Mechanics		Ch 8
M 10/2	Heat		Ch 9
W 10/4	Electricity	Physics Presentations	Ch 10
M 10/9	**Examination II – Ch 6-9**	Physics Presentations	
W 10/11	Magnetism	Physics Presentations	Ch 11
M 10/16	Waves and Sound	Physics Presentations	Ch 12
W 10/18	Light, Reflection, and Color	Physics Presentations	Ch 13
M 10/23	Properties of Light	Physics Presentations	Ch 14
W 10/25	The Atom		Ch 15
M 10/30	**Examination III – Ch 10-14**		
W 11/1	Nuclear Energy		Ch 16
M 11/6	Elements of Chemistry		Ch 17
W 11/8	How Atoms Bond and Molecules Attract		Ch 18
F 11/10	**Veteran's Day**		
M 11/13	How Chemicals Mix		Ch 19
W 11/15	**Examination IV– Ch 15-19**	**No Lab**	
M 11/20	How Chemicals React	Chemistry Presentations	Ch 20
W 11/22	Two Types of Chem Reactions(Acid/Base)	Chemistry Presentation	Ch 21
R 11/23	**Thanksgiving**		
F 11/14	**Thanksgiving**		
M 11/27	Two Types of Chem Reactions(Oxi/Reduc)	Chemistry Presentation	Ch 21
W 11/29	Organic Compounds	Chemistry Presentations	Ch 22
M 12/4	Organic Compounds/The Nutrients of Life	Chemistry Presentations	Ch 22/23
W 12/6	The Nutrients of Life	Chemistry Presentations	Ch 23
W 12/13	**Examination V – Ch 20-23 – 10:30 AM – 12:30 PM**		