Course Number: EDSC 5721  
Course Title: Science Camp - Photosynthesis  
Instructor: Bill Ebener  
Semester Credit(s): 1  
Total Cost for Credit: $60.00

1. Educational Goals for the Course:
   - Provide a broad-based survey of biology, chemistry, physics, and mathematics to show the interconnectedness of knowledge.
   - Develop a discerning individual.
   - Practice critical thinking and problem solving skills.
   - Reinforce reading, writing, speaking, and quantitative skills.
   - Encourage and inspire life-long learning.
   - Encourage creativity.

2. Instructional Learning Objectives:
   a. The ability to understand scientific facts, concepts, theories and laws.
      i. Matter, energy, and the organization of living systems
      ii. Interdependence of organisms within the environment
   b. The ability to inquire using the scientific method for conducting research.
      i. Formulate testable hypotheses
      ii. Design and conduct scientific investigations
      iii. Use technology to enhance investigation of quantifiable results
      iv. Learn laboratory and field skills and techniques
   c. The ability to use critical thinking skills to identify problems, analyze solutions and to make informed decisions.
   d. The ability to accurately communicate scientific information.
   e. The ability to collaborate on scientific study.

3. Course Requirements:
   In Class:
   - Attend all preparatory class sessions and science camp and participate in all activities
   Out of Class:
   Students will put together an e-Portfolio to include the following:
   - Lesson plans
   - Daily journal
   - Learning resources
   - Outcomes assessments
   Submit to Bill Ebener  BEbener@csi.edu  208-732-6808

4. Dates, Times and Location of Proposed Course:
   (1 Semester Credit Equals 15 Professor Contact Hours plus an additional 30 Hours Outside Work)
   Class Dates: July 13, 15, 17, 20, 22, 24, 2009; 2:00pm - 5:00pm; Evergreen A15, CSI; Science Camp: July 27 - 31, 2009;
   8:30am - 4:00pm (one 3.5 hr block/day); Evergreen A09, CSI. Twin Falls.

5. Due Dates for Completion of Course Requirements: August 14, 2009

6. Learning Resources and Required Text:
   - On-line books and course activities via Pearson Publishers Course Compass
   - See attached Appendix I for details

7. Evaluation Procedure: Pass/Fail
NNU Course Syllabus
CSI faculty members from Biology and Physical Science Departments will provide a dynamic, investigative, learning environment, in alignment with Idaho Content Standards (http://www.sde.idaho.gov/site/content_standards/), to promote a deep conceptual understanding of science, its exploration and application, for elementary teachers in a classroom setting. Emphasis will be placed on delivering content using innovative, scientific approaches based on hands-on delivery. The teachers taking the class will apply and refine communication of these concepts, in an interactive setting, with children who enroll in CSI’s summer Science Camp. CSI and its faculty will continue to provide academic and material support as teachers bring deeper scientific conceptual understanding to life in their own classrooms throughout the school year. The theme of Summer Science Camp 2009 will be photosynthesis with specific conceptual content revolving around the question: “What does it mean to be green?” Follow link for brochure: http://communityed.csi.edu/summerPrograms/scienceTechCamps.asp

1. Educational Goals
   a. Provide a broad-based survey of biology, chemistry, physics, and mathematics to show the interconnectedness of knowledge.
   b. Develop a discerning individual.
   c. Practice critical thinking and problem solving skills.
   d. Reinforce reading, writing, speaking, and quantitative skills.
   e. Encourage and inspire life-long learning.
   f. Encourage creativity.

2. Student Learning Objectives
   a. Learn and apply scientific concepts behind classroom demonstrations.
   b. Develop lesson plans that incorporate scientific concepts into existing reading activities
   c. Develop lesson plans that incorporate scientific concepts that are Idaho Content Standard, grade level, specific.
   d. Create, develop, implement, and refine original experiments that provide grade level, dynamic, student driven, investigation of science concepts.
   e. Implement all of the above into a weeklong, fun, educational, summer science camp for elementary age kids.
   f. Mentor and direct interns (CSI Education Department pre-service teachers).
   g. Provide reflective commentary on activities and experiments to facilitate future applications and possible refinements.
   h. Catalog activities, revise, and update Summer Science Camp website.
   i. Remain active in the Discussion Board on the Summer Science Camp website
      i. Mentor a teacher in your school
      ii. Become a part of the resource network to assist others
      iii. Plan future Science Camp themes and activities
      iv. Advise and recruit interns

3. Anticipated Student Competencies
   a. The ability to understand scientific facts, concepts, theories and laws.
      i. Matter, energy, and the organization of living systems
      ii. Interdependence of organisms within the environment
   b. The ability to inquire using the scientific method for conducting research.
      i. formulate testable hypotheses
      ii. design and conduct scientific investigations
      iii. use technology to enhance investigation of quantifiable results
      iv. learn laboratory and field skills and techniques
   c. The ability to use critical thinking skills to identify problems, analyze solutions and to make informed decisions.
Professional Development

d. The ability to accurately communicate scientific information.
e. The ability to collaborate on scientific study.

4. Due Dates
   b. Orientation: 5/20/09; 4:00 to 6:00pm, Evergreen A15, CSI.
   c. Class Dates: 7/13, 15, 17, 20, 22, 24; 2:00 to 5:00pm, Evergreen A15, CSI.
   d. Science Camp: 7/27-31: 8:30am to 4:00pm (one 3.5 hr block/day), Evergreen A09, CSI.

5. Learning Resources
   a. On-line books and course activities via Pearson Publishers CourseCompass
      i. See Appendix I for details

6. Evaluation Procedures
   a. Students will put together an e-Portfolio to include the following:
      i. Lesson plans
      ii. Daily journal
      iii. Learning resources
      iv. Outcomes assessments

Link to more info on e-Portfolio

Appendix I

Biology: Concepts and Connections, 6/E
Neil A. Campbell, University of California, Riverside
Jane B. Reece, Berkeley, California
Martha R. Taylor, Cornell University
Eric J. Simon, New England College
Jean L. Dickey, Clemson University
ISBN-10: 0321489845
Publisher: Benjamin Cummings
Copyright: 2009
Format: Cloth; 928 pp
Published: 02/18/2008

Suggested retail price: $150.00
Buy from myPearsonStore

http://www.pearsonhighered.com/educator/academic/product/0,3110,0321489845,00.html
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Appendix I Continued

**Introductory Chemistry, 3/E**

*Nivaldo J. Tro, Westmont College*

ISBN-10: 0136003826  
Publisher: Prentice Hall  
Copyright: 2009  
Format: Cloth; 848 pp  
Published: 01/07/2008  

Suggested retail price: $135.80  
[Buy from myPearsonStore](http://www.pearsonhighered.com/educator/academic/product/0,3110,0136003826,00.html)

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**Conceptual Physical Science Explorations, 2/E**

*Paul G. Hewitt, City College of San Francisco  
John A. Suchocki, St. Michael's College  
Leslie A. Hewitt*

ISBN-10: 0321567919  
Publisher: Addison-Wesley  
Copyright: 2010  
Format: Paper; 864 pp  
Published: 01/25/2009  

Suggested retail price: $110.67  
[Buy from myPearsonStore](http://www.pearsonhighered.com/educator/academic/product/0,3110,0321567919,00.html)
Professional Development

**Developmental Mathematics: Basic Mathematics and Algebra, 2/E**

*Margaret L. Lial, American River College*
*John Hornsby, University of New Orleans*
*Terry McGinnis*
*Stanley A. Salzman, American River College*
*Diana L. Hestwood, Minneapolis Community and Technical College*

ISBN-10: 0321599208
Publisher: Addison-Wesley
Copyright: 2010
Format: Paper, 1368 pp
Published: 02/04/2009

Suggested retail price: $149.33
**Buy from myPearsonStore**

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**Electronic Portfolios: Students, Teachers, and Life Long Learners**

Electronic Portfolios are a creative means of organizing, summarizing, and sharing artifacts, information, and ideas about teaching and/or learning, along with personal and professional growth. The reflective process of portfolio development can be as important as the final product. In many cases, they are used as part of faculty and student evaluation along with other assessment tools such as standardized tests. A portfolio is a sampling of the breadth and depth of a person's work conveying the range of abilities, attitudes, experiences, and achievements.

Read and watch Dr. Helen Barrett on Electronic Portfolio Development from Apple Learning Interchange.

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