Instructor: Karen Brown  
Email: brownk@wou.edu  
Office NS 213  
Office Hours: Mon., Wed., Fri. 11:00 to Noon
Phone: (503) 838-8265  
Tuesday 9:00 to 11:00 AM, Wednesday 2:00 to 3:00 PM
www.wou.edu/~brownk  
or by appointment

When sending email, please reference this class in the subject of the email: “ES 104 Lab”

0 Credit Hours—Your grade in ES 104 lab will comprise 25% of your ES 104 course grade, assigned by your lecture instructor. I will report your lab grade as a percentage to your lecture instructor, to be included as part of your lecture grade. You will NOT receive a passing grade in ES 104 if you do not achieve at least 60% in lab.

Goal: Understand the modern hypotheses of the formation of the Solar System; become familiar with the processes of the interior of Earth, including plate tectonics, earthquakes and volcanism; and an introduction to Earth materials.

Textbooks and materials:
*Earth System Science I, Lab Manual*, Available at Western Oregon University Bookstore. You must have an unused copy of the lab manual. (*Fall 2006, or Winter 2007 version is acceptable.*) Bring this to each class.


Scientific calculator (that can calculate trig functions). Bring this to each class.

Earth System Science I Laboratory meets Thursday at 3 PM. You need to attend class at this time each week, unless you make arrangements with the instructor to attend another class for an unusual circumstance. Your lab will be due at the end of class. If you have not made arrangements with both instructors to do the activity with the other instructor, you cannot turn in labs at a later time.

Grading: There are eight lab exercises and one quiz for this lab class. This class will be valued at 100 points. Pre-lab assignments will be worth 16 points total, lab exercises will comprise 48 points, and quizzes will make up 36 points of your grade. Your grade will be reported to your lecture instructor as a percentage, to be included with your scores for lecture assessments by your lecture instructor. There will be no credit for late work in this class. Correct answers to the lab exercises and pre-labs will be posted on my website www.wou.edu/~brownk by Friday morning of the week you complete the lab. Be sure to check your lab against this key when your paper is returned to you.

Please read through the lab exercise before coming to class. Each lab exercise has HOMEWORK of pre-lab questions. The purpose of these questions is to introduce the topic to you before coming to class. These need to be turned in at the beginning of class. Each set of pre-lab questions will be worth 2 points (16 points total).
ES 104: Earth System Science I Lab—Spring 2007

We will have a short introduction to the lab activities for the day. Lab exercises usually will be turned in at the end of the period, although there may be some exceptions. If you cannot make it to class, make arrangements with me and the instructor of another lab to attend another lab class that same week, to do the activities. Do not turn in the lab to the other instructor: have that instructor sign the front page. Then you need to bring it to my office, and turn it in when you finish lab class. Failure to do so will result in a ‘late lab’, and no late work is accepted. Each lab activity report will be worth 6 points: 5 for the activities and 1 for the post-lab questions (48 points total).

There will be a practical quiz at the conclusion of the class. You will be able to use your lab reports to refer to during the quiz, so be sure to bring your notebook on quiz day. If you missed a lab, be sure to fill in the report from the key available online. You may not use printed keys or share lab reports for the lab quiz; only your own handwritten work is allowed. You must take this quiz, not another instructor’s quiz. The quiz will be worth 36 points total.

### Tentative Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lab Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>April 5</td>
<td>No lab</td>
</tr>
<tr>
<td>2</td>
<td>April 12</td>
<td>Lab 1: Models and Systems</td>
</tr>
<tr>
<td>3</td>
<td>April 19</td>
<td>Lab 2: Investigating the Solar System</td>
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<tr>
<td>4</td>
<td>April 26</td>
<td>Lab 3: Light and Waves</td>
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<tr>
<td>5</td>
<td>May 3</td>
<td>Lab 4: Introduction to Plate Tectonics</td>
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<tr>
<td>6</td>
<td>May 10</td>
<td>Lab 5: Earthquakes</td>
</tr>
<tr>
<td>7</td>
<td>May 17</td>
<td>Lab 6: Minerals</td>
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<tr>
<td>8</td>
<td>May 24</td>
<td>Lab 7: Igneous Rocks</td>
</tr>
<tr>
<td>9</td>
<td>June 7</td>
<td>Lab 8: Volcanism and Volcanic Landforms</td>
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<tr>
<td>10</td>
<td>June 7</td>
<td>Lab Quiz—bring scantron and lab notebook</td>
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</tbody>
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If you are having problems attending class, contact me as soon as practicable. If you know ahead of time that you will not be in class for a quiz, contact me before the quiz to make some arrangements. If you miss a quiz without prior notice, please have some written evidence of your emergency situation, or use the Office of Student Affairs to communicate. I am understanding, but need verification of each case.

If you find yourself unable to complete this class, due to personal circumstances, you may request a grade report of ‘incomplete’. You must be passing when you request this; you must go through Office of Student Affairs to verify your situation; and you must sign a plan of completion with me. See page 23 of the WOU 2006-07 Catalog for details.
Spring term Calendar

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, April 2</td>
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<tr>
<td>Fee payment &amp; add/drop begin</td>
<td>Monday, April 2</td>
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<tr>
<td>Last day to pay fees without penalty</td>
<td>Friday, April 6</td>
</tr>
<tr>
<td>Last day to add courses, change grade options, elect graduate/undergraduate credit or pay fees</td>
<td>Friday, April 13</td>
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<tr>
<td>Last day to drop courses</td>
<td>Friday, May 11</td>
</tr>
<tr>
<td>Registration for next term</td>
<td>Monday, May 21 - Friday, May 25</td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
<td>Monday, May 28</td>
</tr>
<tr>
<td>Final examination week</td>
<td>Monday, June 11 - Friday, June 15</td>
</tr>
<tr>
<td>Spring term ends</td>
<td>Friday, June 15</td>
</tr>
</tbody>
</table>

University Mission Statement
Western Oregon University is a comprehensive university that creates personalized learning opportunities, supports the advancement of knowledge for the public good and maximizes individual and professional development. Our environment is open to the exchange of ideas, where discovery, creativity and critical thinking flourish, and students succeed. (p. 5)

College of Liberal Arts and Sciences Mission Statement
The College of Liberal Arts and Sciences provides the central learning experience for all undergraduate students at Western Oregon University. The faculty are committed to engaging students in academic discovery and intellectual growth via the core curriculum, major and minor baccalaureate curricula, and mastery in select graduate programs.

Program Objectives
1. Engage students in scholarly pursuits that benefit their preparation for life-long learning and societal engagement.
2. Provide an environment where students may develop disciplinary competencies necessary for their chosen career fields.
3. Provide opportunities for faculty-student mentoring and out-of-classroom learning opportunities.
For more information, see the Web site at: [www.wou.edu/las](http://www.wou.edu/las). (p. 38)

Natural Sciences and Mathematics Division
Division Chair Lonnie Guralnick
The Natural Sciences and Mathematics Division is responsible for majors and minors in biology, chemistry, earth science, integrated science, mathematics and natural science.

Mission
To offer quality liberal arts education in Biology, Chemistry, Earth Science, Mathematics, Physics and Pre-Professional Studies. Our students have the opportunity to acquire and assimilate mathematical and scientific knowledge, that they may broaden and refine their understanding of the ever-changing world around them, both while at Western Oregon University and throughout their lives.

Program Objectives
1. To help students internalize and apply both the scientific method and major scientific and mathematical concepts and principles.
2. To enhance students’ reasoning and problem solving skills.
3. To improve students’ individual and collaborative skills in preparation for the global scientific and mathematical challenges of the 21st century.
More detailed program information, including program admission requirements can be obtained by contacting the division at: 503-838-8206, or on the Web at [www.wou.edu/las/natsci_math/nsmdiv.html](http://www.wou.edu/las/natsci_math/nsmdiv.html). (p. 39)
Students at WOU will be challenged to achieve their highest potential through a rigorous and stimulating curriculum. Between 2004 and 2005, a set of educational goals called Institutional Aspirations for Learning were collaboratively developed by our faculty after focused discussions about the fundamental aims of liberal education in the 21st century. These aspirations constitute the core competencies, skills, experiences and values credited to, and expected of, WOU’s educational process and its graduates. We believe that these aspirations are the basic building blocks of a high-quality education as well as the foundations for productive careers, lifelong development and informed citizenship on a local, national and global level.

1. Students will develop more refined critical thinking skills, including advanced analytical, logical and quantitative reasoning abilities as well as excellent problem-solving skills.
2. Students will develop effective communicative abilities, including listening, observing, speaking, writing and dialoguing.
3. Students will become active readers with an enhanced ability to carefully, closely and thoughtfully read a range of texts.
4. Students will acquire field or discipline specific knowledge and they will understand disciplinary modes of intellectual inquiry.
5. Students will develop an interdisciplinary and integrative perspective as they recognize, explore, appreciate and engage the interconnections between disciplines.
6. Students will develop advanced research abilities and they will demonstrate improvements in their information and media literacy.
7. Students will learn how to use appropriate technologies.
8. Students will acquire and demonstrate competencies, skills, attributes and values necessary for successful participation in a diverse, pluralistic and increasingly interdependent world.
9. Students will be able to work effectively in teams.
10. Students will strive to be well-balanced persons capable of making thoughtful and healthy choices.
11. Students will be able to apply theory in relevant, appropriate and reflective ways. (p. 6)
Academic Advising and Learning Center
Director Karen Sullivan-Vance

Academic Advising Center
Academic advising at WOU is a developmental process designed to help students define their life and career values and goals in relation to their academic plan. Both the student and adviser have a shared responsibility in the ongoing dialogue that helps students maximize their educational experience at WOU. All undergraduate students are required to meet with their academic adviser at least once a term until a degree plan is filed with the Registrar’s Office. Students are encouraged to meet with their adviser when they have questions about their educational goals. Students have access to faculty advisers in their major and minor areas of study. In addition, the Academic Advising and Learning Center’s professional advisers can advise students about requirements, along with pre-education and undecided students.

The Academic Advising and Learning Center works with:
• Students to identify their life and career goals in relation to possible academic programs
• Undecided students who are exploring different majors
• Students transferring into WOU from another institution
• Students on academic warning, probation or suspension
• Academic requirements for graduation, including the Liberal Arts Core Curriculum (LACC)

For more information, call 503-838-8428 V/TTY, e-mail advising@wou.edu or go to the Web page www.wou.edu/advising.

Learning Center
Academic skills, including study skills and time management, are essential for college success. The Learning Center helps students assess their current academic skills and develop new skills to help them become successful. Services provided to WOU students at no charge.

Services at the Learning Center include:
• Peer tutoring in most academic subjects by appointment
• Drop-in math tutoring hours
• Tutor-assisted study groups
• Individual study skills assessment and assistance (time management, test taking, note taking, listening, textbook reading, etc.)
• Study skills resource library (videos, books, software and handouts)
• Resource study material for tests (CBEST, Praxis, GRE)
• Student computer lab

Tutoring assistance is offered in most academic subjects by peer tutors who have been recommended by faculty. The tutor’s goal is to help students improve their knowledge and develop better study habits. Students must be currently enrolled in the requested class at WOU for tutoring. For more information, call 503-838-8501, 503-838-8428 TTY, e-mail turnerj@wou.edu, or go to the Web page www.wou.edu/learning. (p. 35)

Standards of Conduct
The following list of prohibited forms of conduct is not all inclusive since it is not possible to list all potential violations.
1. Academic Dishonesty, which includes but is not limited to:
   a. Cheating - intentional use, or attempted use of artifice, deception, fraud, and/or misrepresentation of one’s academic work;
   b. Fabrication - unauthorized falsification and/or invention of any information or citation in any academic exercise;
   c. Facilitating dishonesty - helping or attempting to help another person commit an act of academic dishonesty. This includes students who substitute for other persons in examinations or represent as their own papers, reports, or any other academic work of others;
   d. Plagiarism - representing without giving credit the words, data, or ideas of another person as one’s own work in any academic exercise. This includes submitting, in whole or in part, prewritten term papers of another or the research of another, including but not limited to the product of commercial vendors who sell or distribute such materials, and the appropriation and/or use of electronic data of another person or persons as one’s own, or using such data without giving proper credit for it;
   e. Any use or attempted use of electronic devices in gaining an illegal advantage in academic work in which the use of these devices is prohibited, and such devices include but are not limited to cell phones, PDAs, laptops, programmable calculators, removable disk drives, etc. (p. 29)
Statement on discrimination, including sexual harassment

Western Oregon University is committed to cultivating an educational and work environment in which all individuals are treated with respect and dignity. Each individual has the right to learn and work in an atmosphere that promotes equal educational and employment opportunities and prohibits discriminatory practices, including harassment.

Western Oregon University expects relationships across campus will be free from bias, prejudice and harassment. This policy statement is intended to reaffirm Western Oregon University’s prohibition against discrimination and harassment, clarify types of prohibited conduct, and provide an effective complaint procedure to individuals who believe they have observed or have been subject to prohibited conduct.

Discrimination
Discrimination, for the purposes of this policy, is defined as any act or practice, in form or operation, whether intended or unintended, that unreasonably differentiates among persons on the basis of race, color, religion, national origin, age, sex, marital status, sexual orientation, veteran status or disability or any other status protected under the law.

Harassment
Harassment, for the purposes of this policy, is defined as conduct that creates an intimidating, hostile, or degrading environment that would interfere with the work or academic performance of a reasonable person of the complainant’s protected status.

Sexual Harassment
Sexual harassment is a form of discriminatory harassment. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical behavior of a sexual nature when directed toward an individual because of that individual’s sex when:
• Submission to such conduct is made either explicitly or implicitly a term or condition of the individual’s employment, grade, or used as the basis for any employment or academic decision; or
• Such conduct is unwelcome and has the purpose or effect of unreasonably interfering with an individual’s work or academic performance or creates an intimidating, hostile or offensive work or academic environment.

Additional information is available at www.wou.edu/sexualharassment. To request a complete hard copy of the discrimination and harassment policy and complaint procedure; to discuss a sexual harassment, harassment or discrimination concern; or to file a sexual harassment, harassment or discrimination complaint, contact Judy Vanderburg at 503-838-8131 or vanderj@wou.edu. (p 4)