

**NS481/581 NATURAL SCIENCES SUMMER INSTITUTE  
APPLIED FIELD STUDIES OF THE WILLAMETTE WATERSHED**

**GEOMORPHOLOGY MODULE (WEEK 1: 06/25/01- 06/28/01)**

Summer Session 2001 - Western Oregon University  
9 CR M-T-W-R 8:00 AM - 2:00 PM Room 215/216 Natural Sciences Bldg.

INSTRUCTOR: Dr. Steve Taylor

OFFICE: RM 210 Natural Sciences Bldg

OFFICE HOURS: By Appointment

PHONE: (w) 838-8398 (h) 606-3541

WEB SITE: [www.wou.edu/taylor](http://www.wou.edu/taylor)

E-MAIL: [taylors@wou.edu](mailto:taylors@wou.edu)

**GEOMORPHOLOGY MODULE DESCRIPTION:**

The Luckiamute River drainage system is the focus of integrated field studies that, for the duration of the summer session, will examine selected aspects of the local geology, hydrology, botany, climatology, land use, and water quality. The Luckiamute drains eastward from the central Coast Range of Oregon and comprises a portion of the upper Willamette River basin. The Week 1 Module of the Natural Sciences Summer Institute (NSSI) examines the general geology, physical surface processes, and landform elements that uniquely characterize the Luckiamute watershed. Successive modules will build upon this foundation throughout the remainder of the summer session, providing an integrated systems approach to Natural Science education. Emphasis will be placed on learning observational techniques in the spirit of the "scientific method", technological applications, applied field studies, and "inquiry-based" discovery of concepts.

**CLASS WEB SITE, NOTES, AND OTHER MATERIALS:**

A comprehensive set of Module 1 class notes are available for download via the internet. The class web site is located at **URL <http://www.wou.edu/taylor>** ... and follow the links to the "NSSI Geomorphology Module" home page. Other important news and information is available at **URL <http://www.wou.edu/nssi>**

Module 1 class notes are available as Adobe Acrobat Reader files (\*.pdf file). Acrobat Reader is free and is installed on many campus PC's. For home installation, Acrobat Reader is also available for download at the class web site, but you will be responsible for properly installing the software (and will do so at your own risk!).

**STUDENT COMPUTER ACCESS:**

A significant portion of this course will involve use of various software and hardware technologies. The Natural Sciences Computer Lab is located in NSB216 and will serve as our central data processing area. NS481/581 students have been issued customized student accounts for access to the campus server system. The following server folders are available upon login to the server system:

<b>Logical Drive</b>	<b>Windows</b>	<b>Comments</b>
<b>Windows</b>	<b>Folder</b>	
H drive	H:\username	Standard private student folder, read/write privileges (i.e. you can copy from and save to this folder - <b>only you</b> have access)
I drive	I:\username	Special NSSI private student folder, read/write privileges (i.e. you can copy from and save to this folder - <b>only you</b> have access)
I drive	I:\NSSI	Special NSSI group student folder, read/write privileges (i.e. copy from and save to this folder - <b>all NSSI students</b> have access)
K drive	K:\NSSI	Special NSSI class folder, <b>read privileges only</b> (i.e. you can only open files, but can't save - all NSSI students can access)

## NATURAL SCIENCE BUILDING ACCESS

The names of students enrolled in NS481/581 have been submitted to WOU Campus Security so that they may access the Natural Sciences Building and Natural Sciences Computer Lab (NS216) after hours and on the weekends during summer session. Students may gain access to the building and computer lab by calling campus security and arranging for an entry time.

### FIELD TRIPS:

A significant portion of this class will involve local field trips to the Luckiamute watershed. Field trip destinations will be anywhere from 15 minutes to 45 minutes from campus. Students are advised to "be prepared" for field work and day trips away from campus. The timing of field trips will be modified as the class progresses and curriculum is developed (i.e. be prepared for "in-class" work, and "field work" at any time during the course... at times on the spur of the moment!). The following items are suggested for each day: day pack, sturdy hiking shoes, 1 to 2 liters of drinking water, bag lunch, snacks, energy food, layered clothing for hot / cold - wet / dry conditions, camera, clip board, field note book, writing implements.

*SPECIAL NOTE 1:* The Coast Range and Willamette Valley are home to stinging nettle and poison oak. Please prepare accordingly with long-sleeved shirts, long pants / coveralls, and poison oak cleansing products.

*SPECIAL NOTE 2:* Field notebooks are required and available for purchase from the instructor at a cost of \$9.00.

*SPECIAL NOTE 3:* The scheduled class time ends at 2:00 PM, this does not include travel time from field trip localities. On field trip days, you should anticipate arriving back at campus anywhere between 2:30 and 3:30 PM. Please plan accordingly.

### EVALUATIONS AND EXPECTATIONS:

The Week 1 - Geomorphology Module accounts for 20% of the overall class grade. Please refer to the NS481/581 Master Syllabus for details on final grading procedures. Student performance for the Geomorphology (Week 1) Module will be evaluated on the basis of "in-class" lab assignments, field exercises, quality of the field notebook, and a take-home exam. The following is a breakdown of evaluation scores for the Week 1 - Geomorphology Module (comprising 20% of the total grade):

In-Class Assignments	25%
Field Exercises	25%
Field Notebook	20%
Take-Home Exam	30%

---

Total	100%
-------	------

*\*\*The scores from the Week 1 - Geomorphology will be re-normalized to comprise 20% of the final class grade.*

**Class Assignments:** Class assignments are designed as lab exercises that will be worked on during "on-campus" portions of the class. Some of these assignments will be completed during class time, some will require completion as "homework" outside of the scheduled class time.

**Field Exercises:** Field exercises will be worked on during "off-campus" portions of the class. Some of these assignments will be completed during class time, some will require completion as "homework" outside of the scheduled class time.

**Field Notebooks:** Students are required to maintain a field notebook for the duration of the Week 1 Geomorphology Module. Notebooks should be neat and well organized with the following entries: Date, Locality, Important Notes / Concepts, Tabulated Field Data, Field Sketches, Field Maps, Index to Photographs.

**Take-Home Exam:** A Week 1 Geomorphology Module take-home exam will be assigned by the end of Thursday during week 1 of the Institute. Students are expected to work independently and submit original work. Plagiarism will not be tolerated.

**Assignment Due Dates and Submittal Procedure:** All in-class assignments, field exercises, field notebooks, and the take-home exam are due at **8:00 AM Monday July 2, 2001**. The work should be very neatly organized and clearly arranged in the order with which it was assigned. Field notes are to be photocopied (you will need your notebook for the subsequent weeks of the class!).

**Late Assignments:** Late assignments will be penalized 10% per day for each day past the due date. *Important Note:* It is essential that you complete each week's work by the beginning of the next week. Given the "module" approach to this course, you will fall hopelessly behind if you do not keep up with the assignments on a daily / weekly basis.

### **OTHER REQUIRED MATERIALS:**

Students will also need access to a scientific calculator, colored pencils, ruler, and protractor. You will be required to use these materials during lecture, lab, and exams. Please plan accordingly.

### **STUDENTS WITH DISABILITIES:**

Any student who has a disability that requires accommodation, please make an appointment to see me.

### **TENTATIVE COURSE OUTLINE:**

This outline should be considered tentative at best. The following schedule may be modified as class ideas evolve throughout the Week 1 Module.

#### **Monday June 25, 2001**

- Class Introduction; Principles of Landscape Analysis; "The Watershed Concept"; Overview of Regional Geology, Hydrology, Climatology, and Geomorphology; Map Interpretation, Introduction to Geographic Information Systems (GIS)

#### **Tuesday June 26, 2001**

- Applied GIS, Principles of Geomorphic Mapping, Stream Hydrology
- Field Excursion - Helmick State Park (south of campus)

#### **Wednesday June 27, 2001**

- Geomorphic Mapping and Morphometric Analysis
- Field Excursion - Sulpher Springs (near Lewisburg)

#### **Thursday June 28, 2001**

- Geomorphic Mapping, Morphometric Analysis, Field Hydrology
- Field Excursion - Black Rock area (outside of Falls City)

#### **Friday - Sunday June 29 - July 1, 2001**

- Week 1 project follow-up and take-home exam

#### **Monday July 2, 2001**

- 8:00 AM All Week 1 Module Materials Due (submit to Dr. Dutton first thing)