



**Section 1. Proposed Course Outline** (A general statement of course content that informs class syllabus construction. Once approved, all sections of a given course must include this content, no matter which instructor teaches the course, or the mode of delivery. Divisions must include this new course outline in the Divisional Course Outline binder as required by COPPs.)

Course Number: **GS 102** Full Course Title for print catalog: **General Science: Introduction to Watershed Field Methods**

Abbreviated Course Title for Banner: **Intro Watershed Field Methods** (30 character limit)

Prerequisites:

Co-requisites: GS 101

Grade Option: ☒ Graded (with P/NP option) ☐ Pass/No Pass only

Number/Type Credits	Term Minimum Contact	Term Maximum Contact	11-Week Term Contact
__ Lecture	__ hours (lecture credits x 10)	__ hours (lecture credits x 12)	__ hours (lecture credits x 11)
<u>2</u> Lec/Lab	<u>40</u> hours (lec-lab credits x 20)	<u>48</u> hours (lec-lab credits x 24)	<u>44</u> hours (lec-lab credits x 22)
__ Lab	__ hours (lab credits x 30)	__ hours (lab credits x 36)	__ hours (lab credits x 33)
<u>2</u> Total credits (sum)	<u>40</u> Total hours (sum)	<u>48</u> Total hours (sum)	<u>44</u> Total hours (sum)

**Course Description (300 character limit):**

GS102 introduces approved field techniques including, site sketching, photo documentation, measuring direction, length, slope, counts, plant cover quantification, heights, and areas. Students learn procedures for permanent plot installation and how to protect data integrity. To be taken concurrently with GS101.

**Course Outcomes and Proficiencies**

What will the student **know** or **be able to do** at the end of the course?

What **attitudes** related to the subject will the student hold?

**Upon successful completion of this course, the student will:**

Be able to determine location in the field by several techniques.

Be able to make proper, precise, and safe measurements and calculations of quantity, size, length, height, circumference, diameter, slope, direction, area, using technologically appropriate tools and standard methods.

Be able to sketch a site and document it photographically by approved techniques.

Demonstrate field and office techniques to protect digital data from loss and/or corruption.

**Assessments Planned**

What evidence will demonstrate that students have achieved course outcomes? (assessment tools may include departmental tests, written products, portfolios, juried performances, quizzes and exams, or alternative assessments such as qualitative studies, capstone projects, external reviewers, etc.)

**How each outcome will be assessed:**

Performance observations in the field, field practical exercises, quizzes, and/or exams

Performance observations in the field, field practical exercises, quizzes, and/or exams

Field practical exercises, and/or written reports

field practical exercises

Be able to demonstrate professional field discipline, standards, and behaviors.	Performance observations in the field, field practical exercises, quizzes, and/or exams
Be able to conduct a transect survey using a protocol	Performance observations in the field, field practical exercises, quizzes, and/or exams
Be able to perform procedures for temporary and permanent plot installation and to protect data integrity	Performance observations in the field, field practical exercises, quizzes, and/or exams
Be able to recognize specific plants given a list of common native plants, invasive plants, and species of concern in a specific area.	Performance observations in the field, field practical exercises, quizzes, and/or exams
Be able to follow a protocol for gathering field data.	Performance observations in the field, field practical exercises, quizzes, and/or exams
Be able to communicate clearly and accurately using the spoken and written word and visual representations of information, including data sheet completion and project activity reports.	Written reports, written exams and/or quizzes
Be able to work with others in groups and coordinate team activities.	Group field projects and/or written reports of group projects

### Course Content by Major Topics

What topics will be presented? What are the main activities of the course? What are the central themes? (See sample at <http://www.lanecce.edu/cops/format3.htm>.)

#### Topics:

Field location techniques including Geographic Positioning System (GPS) and map introductions

Field discipline (standards and behaviors)

Data integrity and protection

Measurement methods

Site documentation

Binomial nomenclature

Field plant and animal identification of local species of concern

Plot installation

Data recording and report writing

Teamwork

The main theme of this course is learning basic methods for conducting scientific fieldwork in watersheds. Students will spend half the course time in the field learning these methods.

## Section 2. Proposal Information

**Course Developer:**

Claudia Owen

Date: \_\_\_\_\_

Catalog year to take effect:

2010-11

**Type of Proposal**

☒ New course

☐ Currently 199 or 299

☐ Experimental Course

☐ 199 Special Studies

☐ 299 Trends

☐ Revised course (If increasing credits, use credit change form)

☐ Reactivated course with no change

☐ Reactivated course with changes

**Type of Course:**

☐ Lower Division Collegiate (transfer)

☒ Professional/Technical (required or elective)

☐ Developmental, numbered below 100

**Rationale:**

How does this proposal further the goals of the program or department?

The Watershed Science Technician program will prepare graduates to work in multidisciplinary fields that survey and assess watersheds and develop strategies and solutions to maintain and restore healthy water resources.

This course provides watershed students with essential beginning-level field skills they will need to continue in the watershed program.

What assessment evidence supports this proposal?

Program outcomes, for which this course provides the first introductory field training, are based on input from 20 industry specialists representing local Watershed Councils, the US Forest Service, the US Fish and Wildlife agency, the Oregon Department of Environmental Quality, and numerous private companies engaged in watershed restoration and mitigation work. Local conservation managers consistently highlight the need for field skills across all the disciplines that constitute watershed science work. Surveys of industry professionals indicate that jobseekers entering the field of watershed science with hands-on experience and appropriate field skills will be at an advantage for employment and in potential job advancement.

How do you know there is a demand for this course?

Specialists have expressed the need for trained workers. Students have expressed interest in field-based courses and jobs. This course fits both needs by starting students toward these goals.

## Section 3. Curriculum Equity (<http://www.lanecc.edu/cops/curric.htm>)

**To promote an environment where all learners are encouraged to develop their full potential, this course will support Lane's Curriculum Equity policy in the following way(s):**

A special effort will be made to recruit students from groups underrepresented in watershed fields and to provide role models of gender and diversity respect. This course will include content by ethnically diverse people in teaching methodology and evaluation practices whenever feasible, portray women and men from diverse cultural and ethnic backgrounds in scientific roles, and use gendered examples equally when illustrating methods and concepts.

**Section 4. For revised courses only: PREVIOUS Catalog/Course Information:**

Course Number: \_\_\_\_\_ Course Title in Banner: \_\_\_\_\_ (30 characters maximum)

Full Course Title in print catalog:

Prerequisites:

Co-requisites:

Grade Option: ☐ Graded (with P/NP option) ☐ Pass/No Pass only

Number/Type Credits	Term Minimum Contact	Term Maximum Contact	11-Week Term Contact
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___ <b>Total credits (sum)</b>	___ <b>Total hours (sum)</b>	___ <b>Total hours (sum)</b>	___ <b>Total hours (sum)</b>

**Course Description:**What will change? ☐ Course Number ☐ Title ☐ Course Description ☐ Credit hours ☐ Contact hours**Section 5. Support Courses (New Professional/Technical course proposals must complete.)**

Professional/Technical courses are tracked within programs for purposes of Carl Perkins funding and budgetary planning. Indicate all degree or certificate programs for which this course will be required.

Program	Division
Watershed Science Technician AAS degree program	Science

**Section 6. Overlap Courses (New course proposals must complete.)**

While overlap of course materials is not necessarily a flaw, duplication of course materials may lead to inefficient use of college resources. If there is overlap, the faculty of overlapping courses must agree on the extent of overlap and attach a rationale explaining its necessity.

Options:

Indicate all departments/courses that this course may overlap. Division Dean of existing course enters one of two options at right. Note: N/A is not an option.

1. Approved: overlap is acceptable. Rationale attached.
2. Disapproved: reasons attached.

Division	Course Number / Title	% Overlap	Option	Division Dean of existing course (Signature required for all options)	Date
Science	GS 101 Nature of the Northwest	15%			
Science	BI 103J Forest Ecology	10%			
Science	ENVS 183 Aquatic Environment	10%			

**Section 7. Qualification to fulfill degree requirements** (complete all relevant forms, available at <http://www.lanecc.edu/currshed/drrcforms.htm>, and send to Mary Brau for the Degree Requirements Review Committee):

☐ Form(s) applying for the following degree requirement status have been attached. (Only check this box when forms have been completed and attached.)

**AAOT, ASOT-Bus, OTM:**

- ☐ Arts & Letters
- ☐ Social Sciences
- ☐ Science /Computer Science
- ☐ Mathematics

**AAOT:**

- ☐ Cultural Literacy Option

**AAS, 1-year and 2-year certificates:**

- ☐ Human Relations

DRAFT

## Section 8. Library Impact Statement

Under accreditation standards, Library consultation is essential for new programs, new courses and for substantively revised courses when the revisions entail any change in library use.

### What assignments will require the use of library and information resources?

Each academic area has a Liaison Librarian (<http://www.lanecc.edu/library/services/liaison.htm>). Contact the designated librarian to discuss the library needs of your course. Please allow the librarian at least one week to assess library resources.

#### To be completed by Liaison Librarian:

☐ Library resources are adequate to support this proposal.

☐ Additional resources are needed but can be obtained from current funds.

☐ Significant additional Library funds/resources are required to support this proposal.

\_\_\_\_\_  
Liaison Librarian

\_\_\_\_\_  
Date

## Section 9. Divisional Approval (To be completed by Division Chair and Administrative Assistant)

#### Human, Physical, and Financial Resources:

☐ Additional instructional costs (staff, materials, services or facilities) will be incurred to offer this course.

Source of funding:

☐ No additional instructional resources (staff, materials, services or facilities) are needed to offer this course.

Explain:

#### Required Certifications:

☐ We have developed minimum course certification standards according to the COPPs procedure "Instructor Qualifications: Credit," to be filed with ASA upon course approval.

☐ We have completed faculty certification form(s) for faculty qualified to teach this course, to be filed with ASA and Human Resources upon course approval.

#### Fees:

☐ We have completed fee rationale and fee request forms to be submitted to ASA upon course approval, in compliance with the COPPs procedure, "Fees: Special"

☐ No special fees will be required for this course.

#### Divisional Recommendation:

☐ The Division Chair and Administrative Assistant have reviewed this course proposal and kept a copy for divisional files.

☐ Faculty review of this course was completed within the division on \_\_\_\_ (date).

☐ Pass

☐ Do Not Pass

\_\_\_\_\_  
Administrative Assistant/Coordinator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Division Dean

\_\_\_\_\_  
Date

## Section 10. College Approval

\_\_\_\_\_  
Curriculum Committee Chair

\_\_\_\_\_  
Date

\_\_\_\_\_  
Executive Dean

\_\_\_\_\_  
Date

Curriculum Approval

Committee hearing:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Vice President, Academic Affairs & Chief Academic Officer

\_\_\_\_\_  
Date

## **Rationale for Overlap with GS 101 Nature of the Northwest**

GS 102 is specifically designed to complement GS 101 Nature of the Northwest. As students learn about the natural history (biology and geology) of the Pacific Northwest, GS 102 will provide field experience with the scientific protocols used by field practitioners in measuring aspects of that natural environment specifically related to watersheds. Both courses are introductory level with GS 102 emphasizing proper scientific behavior, practice, and measurements. Specific areas of overlap will include binomial nomenclature and plant and animal identification. Overlap is necessary for the two courses to complement and mesh with each other.

## **Rationale for Overlap with BI 103J Forest Ecology**

Bi 103J overlaps in the areas of binomial nomenclature, data integrity, and use of specific protocols for biological surveying. Some overlap with plant and animal identification will also occur. It will be essential that students in the Watershed Science Technician program retain their knowledge of protocols and identifications. The repetition is explicitly intended for this reason.

## **Rationale for Overlap with ENVS 183 Aquatic Environment**

The overlap between GS 102 and ENVS 183 is mainly in the area of stream-side field activities. The ones in GS 102 are more formal using strict scientific protocols, whereas the ones used in ENVS 183 are more experiential in nature and designed to support learning of environmental concepts rather than carefully controlled scientific data collection. Both courses will have some data collection and plant and animal identification. Again, repetition strengthens learning. The amount of repetition and overlap is fairly small at about 10%.