

**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: **WST 224** Full Course Title for print catalog: **Wetlands Field Methods**

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

Prerequisites: Department or instructor consent.

Co-requisites:

Grade Option: [x]  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) |
| 2 Lec/Lab | 40 hours (lec-lab credits x 20) | 48 hours (lec-lab credits x 24) | 44 hours (lec-lab credits x 22) |
|    Lab |    hours (lab credits x 30) |    hours (lab credits x 36) |    hours (lab credits x 33) |
| 2 **Total credits (sum)** | 40 **Total hours (sum)** | 48 **Total hours (sum)** | 44 **Total hours (sum)** |

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| **Course Description (300 character limit):** |
| Practical field experience in monitoring biological, chemical and physical properties of wetlands. Includes plant communities and microbiology. Introduction to hydraulics and treatment efficiencies. Field exercises on evenings and/or weekends combined with self-paced online learning. |
| **Course Outcomes and Proficiencies** | **Assessments Planned** |
| 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? | 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.) |
| **Upon successful completion of this course, the student will:** | **How each outcome will be assessed:** |
| Describe ecosystem functions wetlands provide and policies that govern the impact of wetlands  | Field Activities, Field Journal, Practical Testing, Oral Report, Practical Activity  |
| Use standard program-accepted protocols, which define the depth of knowledge required for successful completion of the outcomes listed below  | Demonstrated proficiency in independent completion of all identified components of the protocols  |
| Infer important hydrological processes acting at a particular site based on site observations including infiltration, evapotranspiration, soil water storage, drainage, and seasonal water budget  | Practical exercises, field activities, written reports or quiz, data compilation  |
| Explain the role of soil and vegetation in the management and quality of water on a wetland site and emerging downstream supported by direct observations  | Field Activities, Field Journal, Practical Testing, written reports  |
| Classify a wetland site by ecological criteria and observed conditions including hydrogeomorphology  | Field Activities, Field Journal, Practical Testing, Oral Report, Practical Activity  |
| Classify native and invasive species and soils observed using census techniques or protocol guidelines  | Field Activities, Field Journal, Practical Testing, Oral Report, Practical Activity  |
| Summarize major habitats on a specific wetland site for identified species and infer missing habitat needs  | Field Journal, Scenarios, Written reports or quiz, practical testing  |
| Delineate a wetland site and provide all deliverables required for a typical removal-fill application  | Field Activities, Field Journal, Practical Testing, Oral Report, Practical Activity  |
| Communicate clearly with peers, supervisors, and the general public about watersheds and invasive species related practices  | Data compilation, written reports, quiz, and practical activities  |
| Effectively utilize appropriate library and other information resources to research professional issues and support lifelong learning and job advancement  | Data compilation, written reports, quiz, and practical activities  |

**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.lanecc.edu/copps>

**Topics:**

In following a program accepted protocol, content will be covered at the depth necessary for a field technician to complete an industry provided project or scenario:

Examination of important ecosystem functions that wetlands provide, and governing policies such as NEPA and ESA

Inference of hydrological processes that can and do act on existing wetland site(s) in local area that impact water balance studies, including infiltration, evapotranspiration, soil water storage, drainage, and seasonal water budget

Roles of soil and vegetation on the water quality onsite and management of water quality in and downstream of the wetland

Classification of wetlands by hydrogeomorphology

Classify native and invasive species and soils using previously described techniques onsite in a wetland area

Identification and protection of threatened and endangered species in wetlands

Wetlands delineation and habitat studies onsite where delineation is carried out

**Section 2. Proposal Information**

|  |  |  |
| --- | --- | --- |
| **Course Developer:** | **Type of Proposal** | **Type of Course:**  |
| Paul Ruscher, Susie Holmes | [x]  New course | [ ]  Lower Division Collegiate (transfer)  |
| Date: 2/23/2014 |  [ ]  Currently 199 or 299  | [x]  Professional/Technical (required or elective)  |
| Catalog year to take effect:  | [ ]  Experimental Course | [ ]  Developmental, numbered below 100 |
| 2013-2014\_\_\_  |  [ ]  199 Special Studies |  |
| 2014-2015\_\_X\_  |  [ ]  299 Trends  |  |
|  | [ ]  Revised course (If increasing credits, use credit change form) |
|  | [ ]  Reactivated course with no change |
|  | [ ]  Reactivated course with changes  |

**Rationale:**

|  |
| --- |
| How does this proposal further the goals of the program or department?  |
| This is one of four second year field courses of the Watershed Science Technician program and provides training in industry standard field methods appropriate for use in wetland areas. Students must complete 4 credits total of these specialized field methods courses and may elect to complete more.  |
| What assessment evidence supports this proposal?  |
| This course is part of the new WST curriculum, developed by our science faculty with input from our external Watershed Science Advisory Committee. The course teaches learning outcomes identified by industry experts.  |
| How do you know there is a demand for this course?  |
| This is an important course in the WST program. The course will serve CT students in the program and may also serve others seeking field skills in this area. Wetlands are key habitats for protection and restoration projects.  |

**Section 3. Curriculum Equity** [**http://www.lanecc.edu/copps**](http://www.lanecc.edu/copps)

**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):**

Using gendered examples equally when illustrating theories and concepts. Use research sources, graphics, videos and other media that portray women and men from diverse cultural and ethnic backgrounds in roles related to the science and field studies. Use gender-neutral terms such as people, human, you, they wherever possible and alternate genders where this is not possible.

**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** |
|    Lecture |    hours (lecture credits x 10) |    hours (lecture credits x 12) |    hours (lecture credits x 11) |
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|    Lab |    hours (lab credits x 30) |    hours (lab credits x 36) |    hours (lab credits x 33) |
|    **Total credits (sum)** |     **Total hours (sum)** |     **Total hours (sum)** |     **Total hours (sum)** |

**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.

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| --- | --- |
| Program | Division |
| Watershed Science Technician | 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.

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.

Options:

1. No overlap.

2. Approved: overlap is acceptable. Rationale attached.

3. Disapproved: reasons attached.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Division | Course Number / Title | % Overlap | Option | Division Dean of existing course(Signature required for all options) | Date |
| Science | GS 102 - Intro to Watershed Science Field Methods | 10 | 2 |  |       |
| Science | ENVS 183 - Aquatic Environment | 10 | 2 |  |       |

**Section 7. Qualification to fulfill degree requirements** (complete all relevant forms, available at <http://www.lanecc.edu/currsched/curriculum-forms> and send to Curriculum/Scheduling 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

[ ]  Cultural Literacy Option

(please submit with course syllabus to Michael Samano in Social Science)

**All degrees:**

[ ]  Health/Wellness/Fitness

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

[ ]  Human Relations

**Optional designation:**

[ ]  Sustainability status

**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?**

None

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:**

X 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:**

[x]  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.

Administrative Assistant/Coordinator Date

**Fees:**

[x]  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:**

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

[x]  Faculty review of this course was completed within the division on 2/24/14(date). Advisory Committee review

X Pass [ ]  Do Not Pass

Academic Dean Date

**Section 10. College Approval**

Curriculum Committee Chair Date Executive Dean for Academic Affairs Date

Curriculum Approval Committee hearing:       \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Date Vice President for Academic & Date

 Student Affairs

**Rationales for Course Material Overlap**

**WST 224: Wetlands Field Methods**

GS 102 – General Science: Introduction to Watershed Field Methods (10%)

* Program field methods are introduced in GS 102 and all subsequent field methods courses extend and apply these techniques to specialty focus areas or habitats.

ENVS 183 – Aquatic Environment (10%)

* Wetlands are one of the key habitat types in watersheds that are introduced in the ENVS 183 class in a conceptual way. In WST 224, students learn to apply knowledge directly in the wetland environment.

WST 221 – Invasive Species Field Methods (10%)

* This course applies principles developed in WST 221, to learn how to identify and mitigate invasive species in a wetland setting.

WST 222 – Threatened and Endangered Species Field Methods (10%)

* This course applies principles developed in WST 222, to learn how to identify and preserve threatened and endangered species in a wetland setting.