Lane Community College

**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: **WATR 209** Full Course Title for print catalog: **Water Stewardship in Urban Agriculture**

Abbreviated Course Title for Banner: **Urban Agriculture & Water** (30 character limit)

Prerequisites: WATR 208, WATR 107

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) |
| 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)** |

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

WATR 209 extends knowledge introduced in WATR 208 & WATR 107 into the urban environment. Retrofitting for resilient food production in urban & suburban environments. Building of local infrastructure to support water stewardship in response for forecast climate changes. Integration of Outdoor Landscape with Agricultural Production.

## 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?

## 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.)

| Upon successful completion of this course, the student will: | How each outcome will be assessed: |
|---|---|
| Enumerate opportunities for water stewardship in urban agriculture. | Class activities, quizzes, and/or exams |
| Identify options for water system source, storage, treatment, and conveyance in urban agricultural systems | Class activities, site visits, quizzes and/or exams |
| Complete an urban soil evaluation for agricultural opportunities. | Field practical exercise, and/or written reports |
| Distinguish between resilient and conventional water systems for urban agriculture. | Class activities, quizzes, and/or exams |

| | |
|---|---|
| Simulate an annual water budget on an urban agricultural site | Class activities, site visits, quizzes and/or exams, and final project |
| Relate opportunities for integrating urban agriculture with native species. | Class activities, site visits, quizzes and/or exams, and final project |
| Prepare a feasibility plan for a resilient community based urban agriculture project including water system proposal, crop possibilities & outreach options. | Final Project |
| Assess an existing water system for resilience and appropriateness for water stewardship | Final Project |
| Relate an existing site to agricultural opportunities using vertical space and microclimates | Class Activities, Written reports, written exams and/or quizzes |
| Contrast community water stewardship in an urban setting with conventional water conservation approaches | Written reports, written exams and/or quizzes, class activities, final project |

## 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/cops/format3.htm.)

**Topics:**

Water Stewardship in Urban Agriculture– Options Beyond Water Conservation
- Community Support & involvement
- Appropriate Scale
- Local Economics
- Energy Savings

Resilient Water Systems – Providing water infrastructure capable of adaptive responses to change
- Urban Water Sources for Agriculture
  - Rooftop
  - Catchment Diversion
  - Public Water System Providers
  - Greywater Options
- Urban Storage Options for Agriculture
  - Soils
  - Cisterns
  - Ponds & Swales
- Local Treatment
- Local Conveyance

Crop Choices & Moisture Regimes in Urban Environments

Ecosystem Services & Space for Native Species

Urban Opportunities
- Vertical Space
- Microclimates
- Local Labor
- Emerging REACH code & green building code retrofits

## Section 2. Proposal Information

**Course Developer:**
Stephen Clarke
Date: _____
Catalog year to take effect:
2013-14

**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 Water Conservation Technician AAS degree prepares graduates for careers in the water field as water efficiency technicians, coordinators, and specialists, or as water management specialists and technicians. The program prepares students to design, implement and evaluate water conservation programs.

This course supports all the learning objective of the program in a particular context. Relying on skills developed in both WATR 208 Water Conservation: Agriculture and WATR 107 Water Conservation: Outdoor, it develops skills to advise the rapidly growing field of urban agriculture. It introduces water system resilience at a local level to cope with growing water demands for food production inside cities, when climate forecasts predict stress on water availability in these same systems.

**What assessment evidence supports this proposal?**
Input from the Water Conservation Technician Program Advisory Committee has identified the need for course work that integrates urban sustainability issues with traditional water conservation programs. Agencies are rapidly developing programs in support of green & reach codes which integrate the built and agricultural environment that have specialized staff training needs.

**How do you know there is a demand for this course?**
Specialists have expressed the need for trained workers. Students have expressed interest in combining agricultural skills with urban environments in courses and jobs. Local agencies have significant opportunities for coop & experiential education with students.

## 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 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 |
|---|---|---|---|
| __ Lecture | __ hours (lecture credits x 10) | __ hours (lecture credits x 12) | __ hours (lecture credits x 11) |
| __ Lec/Lab | __ hours (lec-lab credits x 20) | __ hours (lec-lab credits x 24) | __ hours (lec-lab credits x 22) |
| __ 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.

| Program | Division |
|---|---|
| Water Conservation 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.

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. 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 | WATR 208 | 5 | | | |
| Science | WATR 107 | 5 | | | |
| | | | | | |

**Section 7. Qualification to fulfill degree requirements** (complete all relevant forms, available at http://www.lanecc.edu/currsched/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

## 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?**

No Library or information services will be required.

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: will be taught by current water program adjunt.

**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 11/12(date).

☒ Pass ☐ Do Not Pass

Division Dean _____ Date _____

Administrative Assistant/Coordinator _____ 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 WATR 208 **Water Conservation: Agriculture**

WATR 209 is designed to extend skills gained in the WATR 208 course. Overlap will occur in brief review of content areas prior to extending their application to agricultural opportunities and practices specific to urban environments. Specifically reviews of soil water holding capacity, crop coefficients, irrigation scheduling, seasonal crop choices, and irrigation system layouts will be necessary.

## **Rationale for Overlap with WATR 107** Water Conservation: Outdoor

WATR 209 is designed to extend skills gained in the WATR 107 course. Overlap will occur in brief review of content areas prior to extending their application to course concepts. Specifically reviews of urban soils, microclimates, and standard water systems in cities will be necessary.