WINONA STATE UNIVERSITY
NEW AND REVISED COURSE AND PROGRAM APPROVAL FORM

Routing form for new and revised courses and programs. Course or Program BIOL 418 Plant Ecology

Department Recommendation

Edw L Thompson — Department Chair
12/6/13 — Date
ethompson@winona.edu — e-mail address

Dean's Recommendation X Yes ____ No*

Cheryl S Mutschler — Dean of College
12/19/13 — Date

*The dean shall forward his/her recommendation to the chair of the department, the chair of A2C2, and the Vice President for Academic Affairs.

A2C2 Recommendation ____ Approved ____ Disapproved

Chair of A2C2 — Date

Graduate Council Recommendation (if applicable) ____ Approved ____ Disapproved

Chair of Graduate Council — Date

Director of Graduate Studies — Date

Faculty Senate Recommendation ____ Approved ____ Disapproved

President of Faculty Senate — Date

Academic Vice President Recommendation ____ Approved ____ Disapproved

Academic Vice President — Date

Decision of President ____ Approved ____ Disapproved

President — Date

Please forward to Registrar.

Registrar — Date entered

Please notify department chair via e-mail that curricular change has been recorded.

[Revised 4-14-10]

WINONA STATE UNIVERSITY
PROPOSAL FOR A REVISED COURSE

This form is to be used to submit proposed revisions to an existing undergraduate or graduate course which can not be changed with the Notification Form. Every item on this form must be completed prior to submission to A2C2. The department proposing this revision must include a **Financial and Staffing Data Sheet** and the **New and Revised Course and Program Approval Form** with department chairperson's and Dean's signatures. Refer to Regulation 3-4, **Policy for Changing the Curriculum**, for complete information on submitting proposals for curricular changes.

Department Biology Date 11/18/13

Please provide all of the current information for this course:

BIOL 335 (Course No.) Plant Ecology (Course Title) 4 (Credits)

This proposal is for a(n): X Undergraduate Course _____ Graduate Course

Is this course for USP? ____Yes** X No Is this course for GEP? ____Yes** X No

List all Major Codes to which this proposal applies as a required course: BIES

List all Major Codes to which this proposal applies as an elective course: BIEC, BIES, BICM, BIAH, BLST

List all Minor Codes to which this proposal applies as a required course:

List all Minor Codes to which this proposal applies as an elective course: BIOL

Prerequisites BIOL 308, 310, 312, 313

Grading Method X Grade only _____ P/NC only _____ Grade and P/NC Option

Frequency of offering Alternate years (fall)

Please indicate any proposed changes in this course information

BIOL 418 (Course No.) _____ (Course Title) _____ (Credits*)

This proposal is for a(n): _____ Undergraduate Course _____ Graduate Course

Is this course for USP? ____Yes** ____ No Is this course for GEP? ____Yes** ____ No

List all Major Codes to which this proposal applies as a required course:

List all Major Codes to which this proposal applies as an elective course:

List all Minor Codes to which this proposal applies as a required course:

List all Minor Codes to which this proposal applies as an elective course:

Prerequisites _____

Grading Method _____ Grade only _____ P/NC only _____ Grade and P/NC Option

Frequency of offering _____

* If this course will change the number of credits for any major or minor, the form ***Proposal for a Revised Program*** must also be submitted and approved according to the instructions on that form.

For General Education Program (GEP) or University Studies (USP) course approval, the form ***Proposal for General Education Courses* or ***Proposal for University Studies Courses*** must also be completed and submitted according to the instructions on that form.

Please provide all of the following information:

(Note: a syllabus or other documentation may not substitute for this)

A. **Changes in the Course Description.** This information will be submitted to MnSCU by the WSU Registrar's office.

1. Provide both the current and the revised catalog descriptions of this course, including credit hours, prerequisites, and grading method. Please place these in two columns, side-by-side, for easy comparison.

BIOL 335 - Plant Ecology

(4 S.H.)

A study of the interactions of plants with each other and their environment. Emphasis is on applied and theoretical physiological, population, and community ecology. Lecture, fieldwork, and laboratory. Prerequisites: BIOL 308 - Cell Biology, BIOL 310 - Genetics, BIOL 312 - General Ecology, and BIOL 313 - General Ecology Laboratory. Offered alternate years.

BIOL 418 - Plant Ecology

(4 S.H.)

A study of the interactions of plants with each other and their environment. Lectures emphasize applied and theoretical physiological, population, and community ecology. Labs focus on local vegetation types and methods and techniques of gathering and analyzing data. Lecture, fieldwork, and laboratory. Prerequisites: BIOL 308 - Cell Biology, BIOL 310 - Genetics, BIOL 312 - General Ecology, and BIOL 313 - General Ecology Laboratory. Offered alternate years.

2. Provide both the current and the revised course outline of the major topics and subtopics to be covered in the course. These outlines should be, at a minimum, two-level outlines of topics and subtopics. Place these in two columns, side-by-side, for easy comparison.

BIOL 335 course outline:

Introduction
Physiological Ecology
- Photosynthesis, Cold
- Soils

Population Ecology
- Plant Demography
- Plant Life Histories

Community Ecology
- Chemical Ecology
- Herbivory & Parasitism
- Mycorrhizae

Vegetation Development
- Succession
- Redevelopment

Plant Conservation
- Assessing Diversity
- Preservation, Restoration

BIOL 418 course outline:

Introduction
Organismal Ecology
- Photosynthesis & Light
- Water and Soil Relations

Population Ecology
- Population Structure & Growth
- Evolution & Change
- Growth & Reproduction
- Plant Life Histories

Community Ecology
- Communities & Competition
- Herbivory & Parasitism
- Disturbance & Succession
- Abundance, Diversity, & Invasive Species

Ecosystem Ecology
- Ecosystems & Landscapes
- Climate & Patterns
- Biomes
- Paleoecology
- Humans, Plants, & Global Change

3.a Instructional delivery methods utilized: (Please check all that apply).

Auditorium/Classroom X	ITV	Online	Web Enhanced	Web Supplemented
Laboratory X	Service Learning	Travel Study	Internship/Practicum	
Other: (Please indicate) X Field trips				

3.b. MnSCU Course media codes: (Please check all that apply).

None: X	3. Internet	6. Independent Study	9. Web Enhanced
1. Satellite	4. ITV Sending	7. Taped	10. Web Supplemented
2. CD Rom	5. Broadcast TV	8. ITV Receiving	

4. Describe both the current and the revised course requirements (papers, lab work, projects, etc.) and means of evaluation. Place these in two columns, side-by-side, for easy comparison.

BIOL 335 requirements:

3 unit exams – in-class essays
Review quiz – biology/ecology review
Tree identification exam – lab/field exam
3 lab reports
- Native plant report
- Invasive plant report
- Group project report

BIOL 418 requirements:

3 unit exams – in-class essays
10 lab reports – data analysis, narrative

5. Describe both the current and the revised course materials (textbook(s), articles, etc.) to be used in this course. Place these in two columns, side-by-side, for easy comparison.

BIOL 335 texts:

Terrestrial Plant Ecology (Barbour et al.)
Trees of Eastern & Central US and Canada (Harlow)

BIOL 418 texts:

The Ecology of Plants (Gurevitch et al.)
Field & Laboratory Methods for General Ecology (Brower et al.)

6. List both the current and the revised student learning outcomes for this course and how each outcome will be assessed. Place these in two columns, side-by-side, for easy comparison

BIOL 335 student learning outcomes:

1) Students will explain the various biotic and abiotic forces acting on plants in their natural environment.
   a. Lecture exams
2) Students will determine the importance of these forces under varying conditions.
   a. Lecture exams
3) Students will predict how human activities may alter the effects of these forces.
   a. Lecture exams
   b. Lab exercises
4) Students will evaluate the trade-offs occurring among our biological, social, political, and economic worlds.
   a. Lecture exams

BIOL 418 student learning outcomes:

1) Students will explain the various biotic and abiotic forces acting on plants in their natural environment.
   a. Lecture exams
   b. Lab exercises
2) Students will determine the importance of these forces under varying conditions.
   a. Lecture exams
   b. Lab exercises
3) Students will predict how human activities may alter the effects of these forces.
   a. Lecture exams
   b. Lab exercises
4) Students will evaluate the trade-offs occurring among our biological, social, political, and economic worlds.
   a. Lecture exams

B. Rationale

Provide a rationale for each of the changes proposed.

We propose to change the course number from BIOL 335 to BIOL 418. This new, proposed course number more accurately conforms to the level at which this course will be taught and the expectations for students taking this course. With four course prerequisites all at the 300-level (BIOL 308, 310, 312, 313), this course is restricted to only upper-level Biology majors/minors. Increased expectations for student data collection, analysis, and writing resulting from fieldwork justify the change in course number to 400-level to match other, existing BIOL courses with similar rigor and expectations.

C. Impact of These Changes on Other Departments, Programs, Majors, and Minors

1. Clearly state the impact of this revision on courses taught in other departments. Does this course duplicate the content of any other course? Is there an effect on prerequisites for this or any other courses?

No impact, no duplication, no effect on prerequisites.

2. Would approval of this course revision change the total number of credits required by any major or minor of any department? If so, explain the effects which this course revision would have.

No.

3. If this revision has an impact on the major or minor of any other department or program, it is the responsibility of the department submitting the proposal to send written notification to the department(s) or program(s) affected. State clearly which other programs are affected by this proposal and whether the other departments have been notified and/or consulted. Attach letter(s) of understanding from impacted department(s).

No impact on major/minor of other departments/programs.

D. Attach to This Proposal a Completed

1. ***Financial and Staffing Data Sheet***
2. ***New and Revised Course and Program Approval Form***

E. Department Contact Person for this Proposal:

Neal D. Mundahl	507-457-5695	nmundahl@winona.edu
Name (please print)	Phone	e-mail address

F. Review by Department A2C2 Representative

Ed W Thompson

I have reviewed this proposal and certify that it is complete

Signature of A2C2 representative

Definitions for codes in 3a and 3b:

01-Satellite:

02- CD Rom:

03- Internet: Predominately = where all, or nearly all, course activity occurs in an online environment. One to two activities may occur face-to-face in a classroom, with the maximum being two activities.

04 – ITV Sending: a course in which students are in the classroom with the instructor, other students join via interactive television technology from other geographically separate locations

05 – Broadcast TV:

06 – Independent Study: a course in which the teacher develops specialized curriculum for the student(s) based on department guidelines in the University course catalog

07 – Taped: a course in which the teacher records the lessons for playback at a later date

08 – ITV Receiving: a course in which students are not in the classroom with the teacher, other students join via interactive television technology from other geographically separate locations

09 – Web Enhanced- Limited Seat Time: For a course in which students are geographically separate from the teacher and other students for a majority of required activities. However, some on-site attendance is required. The course includes synchronous and/or asynchronous instruction.

10 – Web Supplemented- No Reduced Seat Time: For a course utilizing the web for instructional activities. Use of this code may assist your college/university in tracking courses for "smart classrooms" and/or facility usage.

WINONA STATE UNIVERSITY
FINANCIAL AND STAFFING DATA SHEET

Course or Program BIOL 418 Plant Ecology

Include a Financial and Staffing Data Sheet with any proposal for a new course, new program, or revised program.

Please answer the following questions completely. Provide supporting data.

1. Would this course or program be taught with existing staff or with new or additional staff? If this course would be taught by adjunct faculty, include a rationale.

This class will be taught with existing staff. No new, additional, or adjunct staff will be needed to teach this course.

2. What impact would approval of this course/program have on current course offerings? Please discuss number of sections of current offerings, dropping of courses, etc.

Approval of this course change will have no effect on current course offerings. The class currently is taught on an alternate-year basis (one section only), during fall semesters of even-numbered years. That same schedule will be followed if this change is approved.

3. What effect would approval of this course/program have on the department supplies? Include data to support expenditures for staffing, equipment, supplies, instructional resources, etc.

Approval of this course change will result in no change in support expenditures for this class. We predict no change will be needed in staffing, equipment, supplies, or instructional resources compared to what is currently being used by the course during its present alternate-year offering.