



UNIVERSITY OF WASHINGTON  
**CREATING AND CHANGING UNDERGRADUATE  
 ACADEMIC PROGRAMS**

MAY 18 2010  
 OFFICE USE ONLY  
 Control #  
 SFR - 2010 0415

After college/school/campus review, send a signed original and 8 copies to the Curriculum Office/FCAS, Box 355850.  
 For information about when and how to use this form: <http://depts.washington.edu/uwcr/1503instructions.pdf>

<b>College/Campus</b> Environment/Seattle	<b>Department/Unit</b> School of Forest Resources	<b>Date</b> 15 Apr 2010
---	---	-------------------------

**New Programs**

Leading to a Bachelor of \_\_\_\_ in \_\_\_\_ degree.

Leading to a Bachelor of \_\_\_\_ degree with a major in \_\_\_\_.

Leading to a \_\_\_\_ Option within the existing major in \_\_\_\_.

Leading to a minor in Ecological Restoration

**Changes to Existing Programs**

New Admission Requirements for the Major in \_\_\_\_ within the Bachelor of \_\_\_\_.

Revised Admission Requirements for the Major in \_\_\_\_ within the Bachelor of \_\_\_\_.

Revised Program Requirements for the Major in \_\_\_\_ within the Bachelor of \_\_\_\_.

Revised Requirements for the Option in \_\_\_\_ within the major in \_\_\_\_.

Revised Requirements for the Minor in \_\_\_\_.

**Other Changes**

Change name of program from \_\_\_\_ to \_\_\_\_.

New or Revised Continuation Policy for \_\_\_\_.

Eliminate program in \_\_\_\_.

Proposed Effective Date: **Quarter:**  Autumn  Winter  Spring  Summer **Year: 20 10**

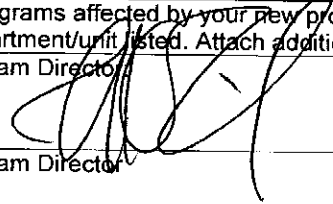
Contact Person: Michelle Trudeau	Phone: 6-1533	Email: michtru@uw.edu	Box: 352100
----------------------------------	---------------	-----------------------	-------------

**EXPLANATION OF AND RATIONALE FOR PROPOSED CHANGE**  
 For new program, please include any relevant supporting documentation such as student learning outcomes, projected enrollments, letters of support and departmental handouts. (Use additional pages if necessary).

The Restoration Ecology Network currently offers an undergraduate certificate with the same 25 credits proposed to be the proposed tri-campus minor in Ecological Restoration. Please see the attached proposal.

**OTHER DEPARTMENTS AFFECTED**

List all departments/units/ or co-accredited programs affected by your new program or changes to your existing program and acquire the signature of the chair/director of each department/unit listed. Attach additional page(s) if necessary. \*See online instructions.

Department/Unit: Program on the Environment	Chair/Program Director: 	Date: 5/5/2010
Department/Unit:	Chair/Program Director:	Date:

**CATALOG COPY**

Catalog Copy as currently written. Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.

None, new minor.

**PROPOSED CATALOG COPY**

Reflecting requested changes (Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications).  
**Please note:** all copy will be edited to reflect uniform style in the General Catalog.

**Ecological Restoration Minor**

Minor Requirements: Minimum 25 credits, to include:

ESRM/ENVIR 362;

10 credits from: BIOL 117/317; ESRM 479; BIOL/ESRM 331; ESRM 411; ESRM 412; ESRM 415; ESRM 425; ESRM 458; ESRM 473; ESRM 480; ESRM 481; OR FISH 428;  
 AND ESRM/ENVIR/TESS/BES ~~462, 463 and 464~~

**APPROVALS**

Chair/Program Director:

*Frances M. Hensley*

Date:

4-28-10

College/School/Campus Curriculum Committee:

*Stephen J. West*

Date:

7 May 2010

Dean/Vice Chancellor:

*Dennis L. Paul*

Date:

5/14/10

Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:

*John Schaufberger*

Date:

6/11/2010

**POST TRI-CAMPUS APPROVAL (when needed)**

Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:

*John Schaufberger*

Date:

OCT. 22, 2010

Ecological Restoration Tri-Campus Minor (minimum 25 credits):

1. Introduction to Restoration Ecology (5 credits): ESRM 362/ENVIR 362, BES 362, or TESC 362.
2. Capstone (10 credits): ESRM/ENVIR/BES/TESC 462, 463, and 464.
3. Electives: 10 credits from approved list of electives maintained by each campus.
4. Minimum 2.00 cumulative GPA for courses presented for the minor.
5. Minimum 15 credits from outside of the student's major.
6. Minimum 15 credits completed at the UW.

# **University of Washington Tri-Campus Minor in Ecological Restoration --A Proposal**

Interdisciplinary Arts and Sciences Program, UWB  
Interdisciplinary Arts and Sciences Program, UWT  
School of Forest Resources, UWS

## **Justification for a minor in Ecological Restoration:**

### **Context**

Increasingly, scholars are addressing the complex interface of human communities and ecological sustainability. Such societal challenges cut across many fields of study. Universities and funding agencies increasingly recognize that our traditional, balkanized disciplinary structures and thinking are inadequate to address these challenges. The recent formulation of the new UW College on the Environment is a direct response to this realization.

### **UW History**

The modern field of ecological restoration (ER) showcases the necessity and merits of interdisciplinary approaches to real-world problems. Effective restoration of complex ecological systems and their human interplay requires a fusion of expertise from ecology, other life sciences, physical and social sciences and the humanities. Over recent decades, faculty and student interest in ER has grown in a diversity of academic units at the UW such as engineering, anthropology, landscape architecture, biology, forest resources, and so on. In 1999 the tri-campus UW Restoration Ecology Network (UW-REN) was created with one-time funds from the Tools for Transformation (TFT) program to catalyze faculty collaboration, research, and undergraduate education in ER across the boundaries of academic departments and campuses.

In the early years, UW-REN played a diversity of roles in linking interests in ER across the UW campuses. A faculty steering committee was established with representatives from academic units at all three UW campuses. A primary effort was focused on the development of courses and curricula in ER that would capture its interdisciplinary breadth and serve students from across a myriad of disciplines. A non-transcripted certificate in ER was offered to students by the UW-REN steering committee with the completion of 25 credits of courses (a core ER course, 2 ER-related courses, and a 3-quarter capstone) available to students on each campus. Since 2000, 324 students have completed the capstone sequence and we have awarded 126 certificates. Students learn how knowledge from their discipline applies to restoration. A central experience for students has been their year-long participation on a UW-REN restoration ecology capstone team. This novel capstone (recognized by an international award and an article in the journal 'Science') engages students in interactive, hands-on learning within human and ecological communities, creating bonds between undergraduate students and the public. With the end of the TFT funding in 2002, UW-REN moved its administrative home to the Program on the Environment (PoE), whose interdisciplinary, tri-campus mission in environmental topics provided an excellent fit.

### **A UW Minor in Ecological Restoration**

Recent changes in the academic faculty steering committee have led to renewed discussions of how we can best serve students with academic and career interests in ER. We believe that the conversion of the present non-transcripted certificate in restoration ecology to a more formally recognized UW minor in

ecological restoration would provide benefits academically and administratively. The certificate curriculum and academic structure that we have successfully instituted for over nine years already meets the UW criteria for an academic minor (i.e., a coherent course of study with at least 25 credits required of courses from multiple departments with a faculty steering committee). A University of Washington tri-campus ER minor will give students the opportunity to develop an expertise in this rapidly emerging field within the context of their major field of study. Organizing the minor across all three UW campuses, will allow students to take advantage of the expertise available on the campuses where students are not regularly in residence, although it will be possible for students to complete the minor on any one campus.

Because the minor is inherently interdisciplinary, and will be housed in 3 interdisciplinary units (IAS in Bothell and Tacoma and SFR within the College on the Environment in Seattle), it will have an even greater breadth of appeal than a traditional minor (aimed at non-majors). IAS students in Bothell and Tacoma, as well as SFR and PoE majors will presumably be interested in the ER minor. In addition however, it is expected that students in some professional programs (e.g., education and business), and in a wide range of disciplines (science and engineering, social sciences, and humanities) will find the ER minor both appealing as complementary to their major course of study and important for future career opportunities.

**Students who might benefit from an ER minor include:**

UW Seattle majors from landscape architecture, engineering, fisheries, forestry, and other fields who hope to be involved in restoring damaged ecosystems at a professional level.

IAS students in Bothell and Tacoma who are interested in graduate school in environmental policy, conservation or restoration or in careers that utilize such knowledge.

Policy and political science students at all three campuses with interests in environmental policy and regulation.

Business students in Bothell, Tacoma, or Seattle who are interested in the issue of environmental regulation and mitigation.

Anthropology students in Seattle and community psychology students in Bothell interested in the relationship between individuals, communities and nature.

Art students in Seattle, Bothell, and Tacoma who wish to explore the emerging field of Eco-Arts and enhance the effectiveness of urban restorations.

Biology students in Seattle (and soon in Bothell) who are interested in the application of basic biological principles to recovering ecological function in human-dominated landscapes.

Social science students in Bothell, Seattle, or Tacoma who are interested in environmental justice issues or environmental law.

Environmental science and studies students in Bothell, Seattle, or Tacoma who are interested in ER as an area of emphasis for their academic and professional careers.

**Tri-campus Faculty Steering Committee:**

The UW-REN faculty academic steering committee consists of faculty from across different disciplines at all three UW campuses. The steering committee meets once each academic quarter (excluding summer). The meetings are organized by administrative personnel at SFR.

---

John Banks	IAS	UW Tacoma
Erica Cline	IAS	UW Tacoma
Jim Diers	Architecture	UW Seattle
Kern Ewing *	SFR	UW Seattle
Jim Fridley	SFR	UW Seattle
Warren Gold *	IAS	UW Bothell
Martha Groom	IAS	UW Bothell
Tom Hinckley	SFR	UW Seattle
Linda Nash	History	UW Seattle
Devon Pena	Anthropology	UW Seattle
Nancy Rottle	Landscape Architecture	UW Seattle
Si Simenstad	Aquatic & Fisheries Sciences	UW Seattle

***Ex Officio Steering Committee Members:***

Julia Parrish	PoE	UW Seattle
---------------	-----	------------

---

\* co-directors

## **The structure of the minor**

**The minor will consist of 25 credits in three categories:**

1. Introductory course in restoration ecology (5 credits)
2. UW-REN capstone course sequence in ecological restoration (10 credits)
3. Restoration related courses (10 credits)

Students may completely fulfill their minor requirements at any one UW campus. Should they choose, students may complete minor requirements by taking courses from more than one UW campus.

### **I. Introduction to Restoration Ecology (5 credits)**

This 5-credit course provides a foundation in the principles and history of ecological restoration. It covers a broad range of topics from how restoration is done, its scientific bases, regulations, social context, etc. This course is offered at all three UW campuses at least once each academic year:

<b><u>Campus</u></b>	<b><u>Course #</u></b>	<b><u>Department / Program</u></b>
Bothell	BES 362	IAS
Seattle	ESRM 362	SFR
Tacoma	TESC 362	IAS

### **II. UW-REN Capstone in Ecological Restoration (10 credits)**

The restoration ecology capstone is a 10-credit three-quarter sequence (fall – winter – spring) taught by faculty from all UW campuses. Students from across departments at all three campuses are assigned to interdisciplinary teams of students from diverse academic fields. These teams work with a community partner to undertake ecological restoration projects in the surrounding area that are important, but for which financial or technical resources are limited. Students learn how to work in a multidisciplinary team environment while accomplishing a restoration project that connects the academic principles they have learned to hands-on practice with a real-life client. The capstone is designed for senior students whose knowledge of their field is sufficiently refined to contribute well to a multidisciplinary team. In the first eight years of the UW-REN capstone we have had 265 students (60% UWS, 27% UWB, 13% UWT) from more than 20 major fields of study. This course sequence is offered at all three UW campuses each academic year:

<b><u>Campus</u></b>	<b><u>Course #</u></b>	<b><u>Department / Program</u></b>
Bothell	BES 462, 463, 464	IAS
Seattle	ESRM 462, 463, 464	SFR
Seattle	ENVIR 462, 463, 464	PoE
Tacoma	TESC 462, 463, 464	IAS

### **III. Restoration Related Courses (10 credits)**

This requirement allows students to develop more specific expertise in ecological restoration, often within their major field of study. Courses are approved that have substantial explicit restoration content or those (above introductory-level courses) that cover principles or provide applications valuable in undertaking restoration. Course approval is done by the UW-REN faculty academic steering committee. Special topics courses offered occasionally are approved on a case-by-case basis by the faculty directors.

#### ***Seattle Campus***

<b>Course Title</b>	<b>Course Number</b>	<b>Credits</b>
Plant Identification and Classification	BIOL 117/317	5
Restoration Design	ESRM 479	5
Landscape Plant Recognition	BIOL / ESRM 331	3
Plant Propagation: Principles & Practice	ESRM 411	3
Native Plant Production	ESRM 412	3
Biology, Ecology & Management of Plant Invasions	ESRM 415	5
Ecosystem Management	ESRM 425	5
Management of Endangered, Threatened, and Sensitive Species	ESRM 458	5
Wetland Ecology	ESRM 472	5
Ecosystem-based Restoration	ESRM 473	5
Selection and Management of Landscape Plants	ESRM 480	5
Field Practicum in Plant Selection and Management	ESRM 481	2
River Restoration	FISH 428	5

#### ***Bothell Campus***

<b>Course Title</b>	<b>Course Number</b>	<b>Credits</b>
Environmental Monitoring Practicum	BES 303	3
Environmental Chemistry	BES 311	5
Environmental Chemistry Lab	BES 315	5
Ecological Methods	BES 316	5
Conservation Biology	BES 485	5
Watershed Ecology and Management	BES 486	5
Wetland Ecology	BES 488	5
Pacific Northwest Ecosystems	BES 489	5
PNW Plants in Restoration & Conservation	BES 490	5



*Tacoma Campus*

<b>Course Title</b>	<b>Course Number</b>	<b>Credits</b>
Issues in Biological Conservation	TESC 232	5
Maps & GIS	TESC 311	5
Water Quality Concepts & Watershed Studies	TESC 319	5
Geomorphology & Soils	TESC 229	5
Environmental Chemistry	TESC 333	6
Pollution & Public Policy	TESC 345	5
Water Resources & Pollution	TESC 431	7
Hydrology & Biogeochemistry in Surface & Groundwater	TESC 432	6

Appendix 1. UW-REN capstone student involvement 2000 – 2008.

**REN Capstone Student Involvement 2000 - 2008**

<b>Campus</b>	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	
UWB	7	6	8	3	12	8	13	14	
UWT	3	2	6	6	3	7	7	1	
UWS	12	16	24	22	25	19	20	21	
<b>TOTAL</b>	<b>22</b>	<b>24</b>	<b>38</b>	<b>31</b>	<b>40</b>	<b>34</b>	<b>40</b>	<b>36</b>	
<b>Level</b>									
Undergraduate	20	18	33	23		25	35	32	
Graduate	1	6	4	7		7	3	2	
Non-matric.	1	0	1	1	2	2	2	2	
<b>Major</b>									
UWB Environ Sci	7	5	7	2	8	7			36
UWB STE				1	3	1	13	14	32
UWB AMS					1				1
UWT Environ Sci	3	2	6	6	3	7	7	1	35
CFR-SRS	2		4	1		1			8
Wildlife					3	1			4
CFR-EHUF		4	8	3					15
CFR-Cons. / ESRM	3	2	1	4	3	5	5	7	30
Forestry				1	1		1	1	4
Landscape Arch /CEP		4	2	4	4	4	1	4	23
Architecture				1					1
Philosophy					1				1
Dance	1		0						1
Biology	1	1	0		1	2	6	2	13
Botany	2	1	2	2	2				9
Zoology	1		1						2
Fisheries			2						2
History			1						1
Physics					1				1
Psychology								1	1
Biochemistry						1			1
Geography							1	1	2
Earth & Space Sci		1							1
Oceanography		1							1
Civil Engineering		1			1	1			3
Education	1	1	1		2	1			6
Anthropology			1		1		1		3
Env Studies (POE)		1	1	3		1	3	3	12
	21	24	37	28	35	32	38	34	
Running Total # Students	<b>22</b>	<b>46</b>	<b>84</b>	<b>115</b>	<b>155</b>	<b>189</b>	<b>229</b>	<b>265</b>	