

# **FISHERIES AND WILDLIFE SCIENCE**

## **POST-BACCALAUREATE ADVISING GUIDE**

**2009-2010**



# **FISHERIES AND WILDLIFE SCIENCE**

## **INTRODUCTION**

We prepare students for professional careers in fisheries and wildlife management, conservation biology, and other natural resource fields. The program integrates a broad education with technical training leading to the Bachelor of Science (B.S.) degree. Long term conservation and management of vertebrate animals and their environments are essential for a healthy earth and a sustainable future for humans. We seek to help students learn to contribute to that future.

Students in the Fisheries and Wildlife Science (FWS) program begin by building a strong foundation in the basic sciences and the humanities, through the FWS major requirements. The curriculum focuses on fish and wildlife biology, conservation and management, habitats, behavior, physiology, genetics and evolution in addition to the interface between humans and natural resources such as fish and wildlife. The program offers flexibility. A student can, with the guidance of a faculty advisor, design much of their curriculum according to individual interests and goals. Required internships and senior capstone courses also support individual educational goals and actively engage students in the field of fisheries and wildlife science.

## **UNIVERSITY REQUIRMENTS**

All undergraduate students must meet the following requirements to receive a Bachelor of Science Degree:

- Complete 32 credits at OSU if your first degree is from OSU and complete 45 credits if your first degree is not from OSU,
- Complete 15 upper-division credits at OSU in your major
- Maintain a cumulative GPA of 2.00

## **FISHERIES AND WILDIFE SCIENCE REQUIREMENTS**

The Bachelor of Science degree program in Fisheries and Wildlife Science combines skill development with discipline-specific knowledge to provide you with training to be successful in the field of Fisheries and Wildlife Science. The Program requires a strong foundation in science, math, human dimensions of natural resources, and fish and wildlife biology, habitats, behavior and genetics. Your curriculum includes at least two internship experiences and two capstone courses (capstones are taken in sequence in the same year), that integrate critical thinking, leadership and team-building skills with state-of-the art fish and wildlife science. The internships will help you explore what the profession has to offer as well as provide you with professional-level experience that will enhance your resume when you begin looking for employment; our internship coordinator will work with you to find opportunities that match your career goals. The capstone courses focus on current issues and provide you the opportunity to synthesize and apply your knowledge in a problem-solving setting, much as you will when you enter the profession after graduation.

**Science and Math Requirements**

Students must complete a full year of biology and chemistry, as well as two courses in calculus and two courses in statistics. **Biology must be a full year sequence intended for science majors, must include labs, and must be taken in-person at a local college or university; biology can not be taken online.** These courses serve as a foundation for the upper level science courses that students take in their Junior and Senior years. The Biology sequence is an enforced prerequisite for starting a 300-level series of required classes (see Prerequisites section below).

**Fisheries and Wildlife Science Core**

The FWS core provides students with an in-depth understanding of fisheries and wildlife conservation and management, behavior, physiology, evolution and genetics. In addition, students develop a strong understanding of vertebrate biology, habitat management and ecosystem function.

**Human Dimensions Core**

The Human Dimensions core provides students with a broad perspective at an advance level of the interface between humans and the natural resources upon which we depend. This experience is intended to build upon and complement the Baccalaureate Core Perspectives requirement.

**Writing Intensive Course (WIC) (3 credits)**

Every discipline has its own particular standards for writing. The WIC classes are designed to give students practice writing within their major.

**Internship/Experiential Learning    2 courses/4 credits total**

Internship provides a way to earn academic credit for attending a professional conference or for working with a governmental agency, non-profit organization, educational institution, business, or other natural resource entity that is relevant to the student's academic and career path. Internship provides the opportunity to gain practical knowledge, skills, experience and connections that will give students an advantage when applying for jobs or a graduate program after graduation. Additionally students identify personal strengths and refine their professional goals.

Two internships are required for graduation: FW 410-Exploratory Internship for 1 credit and FW 410-Intensive Internship for 3 credits. Both are graded classes. The experience must occur during a student's tenure at OSU, must be completed at least two terms before graduation, must not be a part of other credit courses, and must receive prior approval from their Advisor. Students discuss the internship with their Advisor and submit a completed [Internship Training Agreement Form](#) BEFORE enrolling in FW 410. The Training Agreement Form identifies the student's learning objectives and formalizes the understanding between the student, the Department and the mentor overseeing the experience.

Generally, intensive internship will consist of continuing involvement over several months, while exploratory experiences will be of shorter duration (days). Examples of intensive internship would include full or part-time employee/volunteer work in a natural resource area. Examples of exploratory internship include participation in a professional conference (e.g. state chapter meetings of The Wildlife Society, American Fisheries Society, Conservation Biology), assisting with fish or wildlife surveys or sampling, or teaching natural resource subjects in school or community forums.

## **Capstone Courses      2 courses/6 credits total**

### **Problem Solving in Fisheries and Wildlife Science FW 488**

(3 credits, online Winter term 2011)

Enforced Pre-requisites: FW 320, 321

Recommended pre-requisites: One or more 400-level FW courses, such as FW 481 Wildlife Ecology, FW 454 Fishery Biology, or FW 426 Coastal Ecology and Resource Management

This is the first of a two-course capstone sequence designed to introduce students to the synthesis of scientific information on species, habitats and ecosystems and the use of such data in shaping fisheries and wildlife conservation, management and policy. The course will center on three activities: 1) a review of three or four case histories on current, “real world” conservation and management problems presented by faculty or agency biologists who have worked on each problem; 2) discussion about the process used to logically address complex problems in fish and wildlife conservation, leading to development of 3) independent work by students in small groups on a select topic of their choice. The intent of the case history studies is to provide an in-depth treatment of a “real life” complex issue in natural resource management. Each case study will be presented using a common framework that will provide students with a logical process for addressing complex problems in general, and their group problem specifically. The group project provides an opportunity for students to apply what they have learned in this and previous courses to address a conservation or management issue of interest. Each student group will work on a project that includes data analysis and/or synthesis, literature review, and evaluation of the social and economic systems that are involved in the controversy or management problem. Project write-up and presentation will be completed in the subsequent companion course, FW 489 Effective Communications in Fisheries and Wildlife Science, offered in Spring term. Students are required to take the two courses sequentially.

This will be a required course in the FW curriculum, offered each Winter term as part of a 2 course sequence that must be taken together (FW 488 (Winter) and FW 489 (Spring)). The course sequence will be restricted to majors with senior status. A distance version of the course will be developed in 2009.

## **Effective Communications in Fisheries and Wildlife Science FW 489**

(3 credits, online Spring term 2011)

Enforced Prerequisites: FW488 and FW488 must be taken in sequence with FW 489

This continues the 2 course capstone sequence for FW majors emphasizing the analysis, synthesis and interpretation of information and written and oral communication of management, education or policy statements. The course will be taught spring term every year and in sequence with FW488 that will be taught during winter. We will meet twice per week (80 minutes each session) with a lecture and discussion on the first day each week and Group Project work on the second day to assure designated time for Group Project activities.

In this course, groups will work on a variety of methods for presenting their projects to different audiences. In addition to lectures on how to communicate effectively, we will discuss science and advocacy, the role of science in policy-making, conflict resolution skills for communicating with diverse audiences, and working with the media.

### **Summary – Enforced Course Prerequisites and Sequences**

Course prerequisites and sequencing require thoughtful planning and regular consultation with your advisor.

- BI 211, 212 and 213 may not be taken online and are prerequisite to BI 370
- BI 370 is prerequisite to FW 320
- FW 320 is prerequisite to FW 321
- FW 320 and FW 321 are prerequisite to FW 488
- FW 488 is prerequisite to FW 489
- FW 488 and FW 489 must be taken in sequence in the same year

## ADVISING INFORMATION

### Who is my Advisor?

All distance FWS students are advised by Rebecca Goggans.

Rebecca Goggans  
104 Nash Hall  
Oregon State University  
Corvallis OR 97331  
[Rebecca.goggans@oregonstate.edu](mailto:Rebecca.goggans@oregonstate.edu)  
Fax: 541/737-3590

### How do I “meet” with my advisor?

Rebecca is available to answer questions related to the Fisheries and Wildlife Science program, including course planning, transfer courses, internships, specialization development and career planning.

If your questions can be addressed easily by e-mail, I prefer to respond to e-mail inquiries rather than phone inquiries. If your questions require discussion, please make a phone appointment. I am available to “meet” Monday-Thursday from 9am-4pm Pacific Standard Time.

To make an appointment to “meet by phone” with Rebecca, please **send her an email** with the following information:

1. Your name
2. Student ID number
3. Times/days you are available to meet Monday through Thursday, 9am-4pm Pacific Standard Time
4. The phone number where you can be reached
5. What you would like to discuss
6. Files you would like to discuss such as yearly planner, quarterly course selection

### When should I “meet” with my advisor?

It is mandatory to meet by phone with Rebecca during spring term to plan the following year’s courses. It is mandatory to email Rebecca quarterly which classes you plan to take and to obtain your registration PIN. However, you should meet with her as often as you feel necessary.

### How do I prepare for an advising “meeting”?

For each appointment, be prepared and at your computer with pen and paper.

Follow these easy steps before every advising appointment:

1. Update your FWS Advising Checklist.

We will use this checklist throughout your program to keep track of the classes you have taken and the ones you still need to take. Please update this checklist with the courses you have completed before each advising appointment. If you’ve chosen a

Specialization, please have your Specialization course list updated and available also.

2. Fill out the Yearly Class Planner with courses you are thinking of taking.

At the Spring Advising Meeting, you must have this completed for the next 4 terms, including summer, and emailed to Rebecca in advance. Your plan may change, but working it out in advance helps to make your program run smoother.

3. Choose your classes.

You can use the online Schedule of Classes or the FWS Curriculum List to find out when classes will be offered.

Visit the online [Schedule of Classes](#) and select your course(s).

Record the Course Registration Number (CRN) for each course.

Notes:

If you have not taken online courses before and/or it has been awhile since you last attended college, I suggest that you take 1-2 courses in your first term at OSU.

Be aware that if you have received Federal Student Aid (filled out FASFA) through OSU you must register for a minimum number of credits per term (12 credits for a full time student). Contact the [OSU Office of Financial Aid](#) for more information.

**Is advising a shared responsibility?**

Yes, our philosophy is that the student and advisor work together to develop and monitor a student's academic progression. However, the student is ultimately responsible for their education, especially in tracking regulations, grades and course progress towards degree completion.

Advisees

- Be prepared for and bring all relevant materials to advising appointments
- Be knowledgeable about requirements
- Keep track of your grades and the coursework you have completed towards your degree(s)
- Make advising appointments as needed to plan internships and get your specialization approved, in addition to annual appointments for class scheduling
- Contact your advisor each quarter with your proposed class schedule to get a class registration PIN.
- Ask for help when needed
- Check ONID email regularly for important messages from the Department
- Recognize that you are responsible for your education

Advisor

- Respond to requests from students within 48 hours, unless the Out of Office Assistant responds with alternate information
- Be familiar with university rules and regulations
- Find a solution or answer to student's issues and questions
- Help student clarify their goals

- Monitor student progress toward goals
- Assist in course and internship selection
- Make referrals as appropriate

**Who is responsible for keeping track of my progress at OSU, my advisor's or mine?**

It is ultimately *your* responsibility. By updating the FWS Online Advising Checklist after each term, you can keep an accurate record of your progress toward graduation.

**What can I do if my advisor is not available and I need immediate assistance?**

You may call the FWS on-campus Head Advisor at 541/737-1941. Please use this only if your issue needs to be resolved immediately.

**Are there ways to avoid Baccalaureate Core requirements?**

No. OSU expects you to complete the Baccalaureate Core requirements. Many different courses can be used to satisfy these requirements, including several that also fulfill FWS requirements.

**Do I really need all of the prerequisites before taking the course for which they are required?**

Yes, usually. If you have not taken the prerequisites but feel that you have adequate background to successfully complete the course, check with the course instructor to determine if he/she will allow you to take the course without them.

**May I take courses in my major on an S/U grading basis?**

No. Some courses are P/N.

**How do I petition to have a course from another institution count at OSU?**

For some transfer courses, Admissions recognizes them as equivalent to courses offered at OSU. For the courses that are not automatically recognized as equivalent, we have a FWS [Course Petition Form](#). After you fill out and submit the form, an advisor will determine if your course meets our program requirements.

**Should I complete the Online Math Placement Exam**

Yes, you must take the Math Placement Exam if you have not taken college-level calculus. The score from this exam will help determine which math class you should begin with. You will need your student ID and GAP to log into the system. Students have had problems with the test when using a browser other than Explorer. There also are glitches from time to time that seem to resolve if the person waits a little while and then logs in again. If you can't seem to get it to work, please call New Student Programs at 541-737-7627.

**Do I have to sign up for an ONID student email account?**

Yes, this is your official OSU email account and student records should only be sent to ONID accounts. Use this account when contacting your advisor or any other OSU faculty/staff member because non-ONID emails (ex. hotmail, yahoo, gmail, etc...) may get routed to spam files.

To sign up:



- Go to <http://www.onid.orst.edu/>
  - CLICK “sign up for ONID”
  - ENTER OSU ID# and GAP# and CLICK “submit”.
  - Next screen says: “Welcome Your Name” READ and ACCEPT policy statement and CLICK “I agree.”
  - Set new password. WRITE DOWN YOUR NEW PASSWORD! Scroll down and CLICK “proceed.”
  - If you have another e-mail address that you would prefer to use, follow directions to forward your new ONID e-mail account to your preferred e-mail account. All e-mail from your instructors and OSU will be routed to your preferred e-mail account.
  - Next screen says “Your ONID account has been created.” Your new user name will be displayed – WRITE IT DOWN!
  - CLICK “Login to ONID” – this is where you can change your email preferences
- To actually send and receive email via ONID, login to [ONID Webmail](#)**

### **Should I sign up for FWS Undergraduate List-Serv?**

Yes! This list-serv has important information about fisheries and wildlife advising, class offerings, scholarships, internships and jobs. This is one of the most important ways you will connect with other students in the Department of Fisheries and Wildlife Science.

To sign up:

Go to Web page: <http://lists.oregonstate.edu>

Type in listname: fw-undergrads

Under ‘subscribing’ type in your name and email address

Note: you don’t need a password to subscribe

### **Should I sign up for E-News?**

Yes, you will get E-News and Course Flash, both of which provide you with updates on courses and all things ECampus! To subscribe, go to the website at:

<http://ecampus.oregonstate.edu/enews/default.htm>

### **How do I register for classes online?**

To register, log into your [Student Online Services Account](#) and select registration.

You’ll need to have these numbers handy:

- Your **OSU ID** – A nine digit system-generated number which you should receive with your admissions letter.
- Your **GAP** – General Access PIN (personal identification number), originally assigned as your 6-digit birth date. When you first login to the system, it will prompt you to change your GAP to a more secure number. Write this number down, as it will be your “password” each time you login!
- Your **Registration PIN** number – this is mandatory for **degree-seeking students**, and must be assigned by your major advisor. Registration pins change prior to every fall term. You will receive your first PIN during your new student orientation appointment.
- You will need your **OSU ID and GAP** when you check your grades online at the end of the term.

See the ecampus website for further information and help resources:

<http://ecampus.oregonstate.edu/services/registration/register.htm>

### **How do I Login to Blackboard**

- Go to: <http://my.oregonstate.edu/> and CLICK "login."
- TIP: Bookmark this page! You will use it every time you access your course.**
- Enter ONID username and password.
- You are now in Blackboard! Your personalized page should appear with your name at the top. All the tools listed on this page are available to you.
- Web courses for which you are registered will show up under "My Courses."

#### **Notes:**

If you do not see your course it may be that the instructor has not turned it on. E-mail your instructor to inquire when he/she will enable the course. If you have problems with your Blackboard course, contact your instructor or send an e-mail to [ecampus@oregonstate.edu](mailto:ecampus@oregonstate.edu). If you have problems with or questions about Blackboard itself, check the [Technology Help section about Blackboard](#).

### **Do you have questions about financial aid, course fees, computer set-up, or other administrative questions?**

Many answers can be found in the "Guide to Getting Started" packet that you should have received from OSU Extended Campus when you were accepted into the program. If you haven't received the packet, or if you have other questions, contact E-Campus by phone at 1-800-667-1465, by e-mail at [ecampusess@oregonstate.edu](mailto:ecampusess@oregonstate.edu), or on-line at <http://ecampus.oregonstate.edu/ask-ecampus/>

## **EMAIL ETIQUETTE**

Email is a tool that distance faculty and students rely on for communication. Here are a few tips to make email effective.

### **Use a professional email address.**

Student records can only be sent to an ONID account. Further, unprofessional email addresses (e.g. [Fuzzy\\_Bunny@yahoo.com](mailto:Fuzzy_Bunny@yahoo.com)) reflect on your level of professionalism and may be filtered to junk mail.

### **Use correct grammar, punctuation and spelling.**

Email communication between faculty and students is an important piece of your education. Email likely will play a significant role in your professional position upon graduation. Take the time to develop a professional level of skill in email communication.

### **Be concise.**

State your point as efficiently as possible. Be sure to include all the important information, but be brief. Clear communication shows respect for yourself and others.

### **Write the subject of the email in the subject line.**

Writing “Hey”, “Hi” or “Important Info” in a subject line will often cause the recipient to pass it off as spam.

### **Never send an email when angry.**

Before sending an email, consider whether you would say what you have written to the person’s face. Remember, email that you send can be forwarded and there are no “take backs”.

### **Do not assume that email you send to someone is private.**

Email containing confidential student information may be shared with authorized OSU faculty and staff.

### **Be sure to include a ‘signature’.**

Signatures should have your full name, phone number and email address. Include your student ID number, if appropriate.

2009-2010 Post Bac/Double Degree Curriculum							
Department of Fisheries & Wildlife							
Updated 5/09							
			Credits	Terms offered			
Courses				F	W	Sp	Su
Fisheries and Wildlife Core							
	COMM 111: Public Speaking		3	E	E	E	E
	Biology 211		4	Local college or university only			
	Biology 212		4	Local college or university only			
	Biology 213		4	Local college or university only			
	Chemistry 121		5	E	E	E	E
	Chemistry 122		5		E	E	E
	Chemistry 123		5			E	E
	or Chemistry 221		5				
	Chemistry 222		5				
	Chemistry 223		5				
	Math 241: Calculus of Mgt & Soc Sci		4	E	E	E	E
	or Math 251: Differential Calculus		4	E	E	E	E
	ST 351 Statistics		4	E	E	E	E
	ST 352 Statistics		4				
	Bi 370: Ecology (prerequisite: BI 211-213)		3	E	E	E	
	FW 251: Principles of Fish and Wildlife Conservation		3	E	E	E	E
	FW 255: Field Sampling of Fish and Wildlife		3				
	FW 320: Population Dynamics (prerequisite: BI 370)		4			E	E
	FW 321: Applied Community and Ecosystem Ecology		3	E	E		
	(prerequisite: FW320)						
Select 3 additional courses in Chemistry,							
Physics, and/or Earth Sciences			9 to 12	(from attached list)			
Select 2 courses in Human Dimensions of							
Natural Resources			6 to 8	(from attached list)			
>Select one of the following:							
	FW 311: Ornithology		3	E	E	E	E
	FW 315: Ichthyology		3		E	E	E
	FW 317: Mammalogy		3	E		E	E
	Z 473: Biology of Amphibians and Reptiles		3				
>Select one of the following:							
	FW 312: Systematics of Birds		2	E		E	E
	FW 316: Systematics of Fish		2			E2011	
	FW 318: Systematics of Mammals		2				
	Z 474: Systematic Herpetology		2				
>Select one additional course from preceding 2 lists			2 to 3				

X= offered main campus; E= offered thru E-campus; \* = Bacc Core; ^ = Writing Intensive Course; AE= Alt. even yrs; AO= Alt. odd yrs  
Note: Classes are subject to change at any time. Double check course catalog online often for updates.

	FW 410: Exploratory Internship (confer with advisor)	1	E	E	E	E
	FW 410: Intensive Internship (confer with advisor)	3	E	E	E	E
	FW 488: Problem Solving in Fisheries and Wildlife	3			E2011	
	FW 489: Communication in Fisheries and Wildlife	3				E2011
<b>Habitats &amp; Ecosystems: choose one</b>		<b>3-5</b>				
	FOR 341 Forest Ecology	3			E	
	FW 426 Coastal Ecology and Resource Management	5				
	FW 435 Wildlife in Agricultural Ecosystems*^	3	E	E		E
	FW 446 Wildland Fire Ecology	3				
	FW 453 Forest Management and Wildlife Conservation	3				
	FW 456 Limnology	5				
	FW 479 Wetlands and Riparian Ecology	3	E	E		E
	Z 351 Marine Ecology	3				
<b>Species Conservation &amp; Management: choose one</b>		<b>6-8</b>				
	FW 451 Avian Conservation and Management	3				
	FW 458 Mammal Conservation and Management	4	E2010		E2010	
	FW 454 Fishery Biology*^	4	E			
	FW 473 Fish Ecology	4				
	FW 481 Wildlife Ecology	4			E	E
	FW 464 Marine Conservation Biology	3				
	FW 499 ST/Whales and Whaling	3				
<b>Behavior &amp; Physiology: choose one</b>		<b>7-8</b>				
	ANS 314 Animal Physiology	4				E
	BOT 313 Plant Structure	4				
	BOT 331 Plant Physiology	4				
	FW 471 Environmental Physiology of Fishes	4				
	Z 350 Animal Behavior	3				
	Z 423 Environmental Physiology	4				
	Z 431 Vertebrate Physiology	4				
	Z 437 Vertebrate Endocrinology	4				
<b>Genetics &amp; Evolution: choose one</b>		<b>3-5</b>				
	ANS 378 Animal Genetics	4				
	BI 311 Genetics	4	E	E	E	
	BI 445 Evolution (prerequisites: BI 311, 370)	3				
	CSS 430 Plant Genetics	3				
	GEN 430 Introduction to Population Genetics	3				
	Z 422 Comparative Anatomy	5				
	Z 345 Introduction to Evolution (STS)	3				
E=offered online; 20##=year/quarter offered online first time;						
^ = Writing Intensive Course Check course catalog online often for updates.						

X= offered main campus; E= offered thru E-campus; \* = Bacc Core; ^ = Writing Intensive Course; AE= Alt. even yrs; AO= Alt. odd yrs  
Note: Classes are subject to change at any time. Double check course catalog online often for updates.

### PHYSICS, CHEMISTRY, EARTH SCIENCE

**Requirement:** Choose three courses from the list below in physics, chemistry, and earth sciences. **No more than two courses can be selected from any single category.**

**Goal:** To provide students with a background in the basic physical sciences that are important to fish and wildlife science, conservation, and management, to allow students to explore topics of potential interest, and to provide a solid base on which to build a specialization program to match their career goals.

<u>PHYSICS AND MATH</u>		Credits 9-15	E-Campus			
			Fall	Winter	Spring	Summer
PH 201	General Physics I	5				
PH 202	General Physics II	5				
PH 203	General Physics III	5				
PH 205	Solar System Astronomy	4				
PH 206	Stars and Stellar Evolution	4				
PH 207	Galaxies, Quasars, and Cosmology	4				
PH 211	General Physics with Calculus I	4				
PH 212	General Physics with Calculus II	4				
PH 213	General Physics with Calculus III	4				
PH 331	Sound, Hearing, and Music* (STS)	3				
PH 332	Light, Vision, and Color* (STS)	3				
MTH 252	Integral Calculus	4	E	E	E	E
FW/MTH 268	Mathematical Ideas in Biology	4				
<u>CHEMISTRY</u>						
CH 130	General Chemistry of Living Systems					
CH 324	Quantitative Analysis	4				
CH 331	Organic Chemistry	4	E	E		
CH 332	Organic Chemistry	4		E	E	
CH 334	Organic Chemistry	4				
CH 335	Organic Chemistry	4				
CH 336	Organic Chemistry	4				
CH 390	Environmental Chemistry	3	E	E	E	E
BB 350	Elemental Biochemistry	4			E	E
TOX 360	The World of Poisons* (STS)	3				
<u>EARTH SCIENCES</u>						
ATS 210	Introduction to the Atmospheric Sciences	3			E	
GEO 201	Physical Geology	4				
GEO 202	Earth System Science	4				
GEO 203	Evolution of Planet Earth	4				
GEO 221	Environmental Geology	3	E	E		
GEO 305	Living with Active Cascade Volcanoes* (STS)	3			E	
GEO 306	Minerals, Energy, Water, and the Environment	3		E	E	
GEO 307	National Park Geology and Preservation* (STS)	3			E	
GEO 308	Global Change and Earth Sciences* (CGI)	3	E		E	E
GEO 322	Surface Processes	4				
GEO 323	Climatology*^	4		E		
GEO 360	Cartography					
OC 331	Introduction to Oceanography	3		E		
OC 332	Coastal Oceanography	3				
CSS 305	Principles of Soil Science	4				

Most 400 geology courses would be appropriate, but they have 200 and 300 level prerequisites.

\*= Bacc Core; STS= Science, Technology, & Society; CGI= Contemporary Global Issues; ^= Writing Intensive Course

## Human Dimensions Courses

**Requirement:** Two courses from the following list of Human Dimensions courses.

**Goal:** To provide students a broad perspective at an advanced level of the interface between humans and the natural resources upon which we depend. This experience builds upon and complement the Baccalaureate Core Perspectives requirement.

Course	Credits	F	W	S	U
AG 301: Ecosystem Science of Pacific NW Indians	3		E		
ANTH 481: Natural Resources and Community Values	3	E	E	E	E
AREC 351: Natural Resource Management	3	E	E		
AREC 352: Environmental Economics and Policy	3			E	
AREC 432: Environmental Law	4		E		
BI 301: Human Impacts on Ecosystems	3		E	E	
BOT 322: Economic and Ethnobotany: Role of plants in human culture	3				
FOR 330: Forest Resource Economics	4				
FOR 351: Recreation Behavior and Management	4				
FOR 355: Management for Multiple Resource Values	4				
FOR 365: Issues in Natural Resource Conservation	3				
FOR 432: Economics of Recreation Resources	4				
FOR/FE 456: International Forestry	3				
FOR 460: Forest Policy^	4				
FOR 462 Natural Resource Policy and Law	3				
FOR 463: Environmental Policy and Law Interactions	3				
FW 340: Multicultural Perspectives in Natural Resources	3				
FW 350: Endangered Species/Society/Sustainability	3	E	E	E	E
FW 360: Origins of Fish & Wildlife Management -Evolution, Genetics & Ecology	3	E	E	E	
FW 415/515: Fisheries and Wildlife Law and Policy	3	E	E	E	E
FW 470: Ecology and History: Landscapes of the Columbia Basin	3				
FW 485: Consensus and Natural Resources	3		E	E	E
GEO 311: 20th Century U.S. Environmental Policy	3				
HST 481: Environmental History of the U.S.	4				
HSTS 415: Theory of Evolution and Foundation of Modern Biology^	4	E	E	E	E
PHL 440: Environmental Ethics	3				
PHL 443: World Views and Environmental Values	3	E	E	E	
PS 474: Bureaucratic Politics	4	E	E	E	E
PS 475: Environmental Politics and Policy	4				
PS 476: Science and Politics	4	E	E	E	E
SOC 480: Environmental Sociology	3				
SOC 481: Society and Natural Resources	3	E			E
WS 470: Women: Creating Multicultural Alliances	3			E	

^ = Writing Intensive Course

# Post Bac/Double Degree Advising Checklist 2009-10

<b>NAME:</b>		<b>ADVISOR:</b>	
<b>Required Courses</b>	<b>(Credits)</b>		
Prin. F&W Conserv. FW 251 (3)	<input type="checkbox"/>	Gen. Chemistry CH 121, 122, 123 (15)	<input type="checkbox"/>
Field Sampling FW 255 (3)	<input type="checkbox"/>	Gen. Biology BI 211, 212, 213 (12)	<input type="checkbox"/>
Intro Population Dynamics FW 320 (4)	<input type="checkbox"/>	Calculus MTH 241 <b>or</b> 251 (4)	<input type="checkbox"/>
App Com&Eco Ecology FW 321 (3)	<input type="checkbox"/>	Statistics ST 351, 352 (8)	<input type="checkbox"/>
		Ecology BI 370 (3)	<input type="checkbox"/>
Select <u>two</u> courses from the <b>Human</b>		Public Speaking COMM 111 (3)	<input type="checkbox"/>
<b>Dimensions</b> of Natural Resources list:		Internship Exp. FW 410 (1)	<input type="checkbox"/>
(Minimum of 6 Credits)		Internship Exp. FW 410 (3)	<input type="checkbox"/>
<input type="checkbox"/>			
<input type="checkbox"/>		Problem Solving in FWS FW 488 (3)	<input type="checkbox"/>
		Effective Comm. In FWS FW 489 (3)	<input type="checkbox"/>
Select <u>three</u> courses in <b>physics,</b>			
<b>chemistry, or physical geology</b> from			
list: (minimum of 9 credits)		<b>Select courses from FW list:</b>	
<input type="checkbox"/>		Habitats & Ecosystems: <input type="text"/>	<input type="checkbox"/>
<input type="checkbox"/>			
<input type="checkbox"/>		Species Conserv. & Mngmnt <input type="text"/>	<input type="checkbox"/>
<b>Select <u>one</u> of the following:</b>	<input type="checkbox"/>	Behavior & Physiology <input type="text"/>	<input type="checkbox"/>
Ornithology FW 311 (3)			
Ichthyology FW 315 (3)		Genetics & Evolution <input type="text"/>	<input type="checkbox"/>
Mammalogy FW 317 (3)			
Biology of Amph. & Reptiles Z 473 (3)			
		<b>Writing Intensive Course:</b> <input type="text"/>	<input type="checkbox"/>
<b>Select <u>one</u> of the following:</b>	<input type="checkbox"/>	(Can double count)	
Systematics of Birds FW 312(2)			
Systematics of Fish FW 316 (2)			
Systematics of Mammals FW 318 (2)			
Syst. of Amph. & Reptiles Z 474 (2)			
<b>Select <u>one</u> additional course from</b>			
<b>the preceeding two lists:</b>			
<input type="checkbox"/>			
<input type="checkbox"/>			

## Notes

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