2017 - 2018 BS Curriculum Yearly Planner

5/19/2017

Oregon State University Department of Fisheries and Wildlife

Writing I (WR 1), Speech, and Math 111 or higher must be completed within the first 45 OSU credit hours & Writing II (WR 2) within the first 90 OSU credit hours		Credits	Term and Campus			
COMMUNICATIONS		**12-13**	**F**	**W**	**S**	**U**
SPEECH *(select 1)*		**3**				
COMM 111	Public Speaking*	3	C,E	C	C	C
COMM 114	Argument and Critical Discourse*	3	C	C	C	C
WRITING 1 (required)		**3**				
WR 121	English Composition*	3	C,E	C,E	C,E	C,E
WRITING 2 *(select 1)*		**3**				
HC 199	Honors Writing* *(pr: WR 121 & Honors College approval)*	3	C	C	C	
WR 222	English Composition* *(pr: WR 121)*	3	C,E	C,E	C,E	C,E
WR 327 *recommended*	Technical Writing* *(pr: WR 121)*	3	C,E	C,E	C,E	C,E
WR 362	Science Writing* *(pr: WR 121)*	3	C	E	C, E	
WRITING INTENSIVE COURSE (WIC) *(select 1) - Can double count with other requirements*						
	FW 435, FW/FES 439, FW 454, FW 497					
FISHERIES AND WILDLIFE SCIENCES CORE *(all required)*		**68**	**F**	**W**	**S**	**U**
MTH 241	Calculus for Management and Social Science* *(pr: MTH 111 or MTH 112)*	4	C,E	C,E	C,E	C,E
or MTH 245	Math for Management, Life, and Social Sciences* *(pr: MTH 111)*	4	C,E	C,E	C,E	C,E
or MTH 251	Differential Calculus* *(pr: MTH 112)*	4	C,E	C,E	C,E	C,E
CH 121	General Chemistry *(C- or better required)*	5	C,E	C,E	E	E
CH 122	General Chemistry* *(pr: CH 121) (C- or better required)*	5	E	C,E	C,E	E
CH 123	General Chemistry* *(pr: CH 122) (C- or better required)*	5	E	E	C,E	C,E
or series: CH 231-233 lectures & CH 261-263 w/ Corvallis labs may be substituted for CH 121-123			*See schedule of classes*			
BI 211	Principles of Biology* *(C- or better required)*	4	C			C
BI 212	Principles of Biology**(pr or coreq: CH 121 or CH 231 & 261)(C- or better required)*	4		C		C
BI 213	Principles of Biology**(pr or coreq: CH 121 or CH 231 & 261)(C- or better required)*	4			C	C
Ecampus students may substitute the BI 204, 205, 206 series for BI 211, 212, 213:						
BI 204	Introductory Biology* I	4	E	E		
BI 205	Introductory Biology* II	4		E	E	
BI 206	Introductory Biology* III	4	E		E	
or series: BI 204, 205, 206 (pr or coreq: CH 121 or CH 231 & 261) (C- or better required) read page 5 for details		4	E 204	E 205	E 206	
BI 370	Ecology *(pr: C- or better in BI 21X or 20X series)*	3	C,E	C,E	C,E	E
ST 351	Introduction to Statistical Methods	4	C,E	C,E	C,E	C,E
ST 352	Introduction to Statistical Methods *(pr: ST 351)*	4	C,E	C,E	C,E	C,E
FW 107	Orientation to Fisheries and Wildlife	1	C,E	E	E	
FW 209	Career Skills in Fisheries and Wildlife Sciences *(pr: FW 107)*	1	C,E	C,E	C,E	
FW 251	Principles of Fisheries & Wildlife Conservation *(rec: one course in intro. biology)*	3	E	C,E	E	E
FW 255	Field Sampling of Fish and Wildlife *(pr: WR 121)*	3	C,E	C,E	C,E	C,E
FW 289	Communication Skills for Fisheries and Wildlife Professionals	4	E	E	C	
FW 307	Specialization Development	1	C,E	E	C,E	
FW 320	Intro. to Population Dynamics *(pr: BI 370 or BI 371; rec: MTH 245 or higher)*	4	E	C,E	E	E
FW 321	Applied Community and Ecosystem Ecology *(pr: FW 320)*	3	E	E	C,E	
FW 410	Internship: Exploratory	1	C,E	C,E	C,E	C,E
FW 410	Internship: Intensive	3	C,E	C,E	C,E	C,E
FW 488	Problem Solving in Fisheries & Wildlife Science *(pr: FW 320 & FW 321)*	3	E	C,E		
VERTEBRATE BIOLOGY & SYSTEMATICS *(select 3)*		**7-11**	**F**	**W**	**S**	**U**
VERTEBRATE BIOLOGY *(select 1)*		**3-4**				
FW 311	Ornithology *(pr: 1 year biology)*	3	E	E	C,E	E
FW 315	Ichthyology *(pr: 1 year biology)*	3	C,E	E	E	E
FW 317	Mammalogy *(pr: 1 year biology)*	3	E	C,E	E	E
FW 331	Ecology of Marine and Estuarine Birds *(pr: 1 year biology)*	4				H
BI/FW 302	Biology & Conservation of Marine Mammals *(pr: 1 year biology)*	4	E		E	H
Z 473	Herpetology *(pr: C- or better required in 1 year biology)*	3				
SYSTEMATICS *(select 1)*		**2-3**				
FW 312	Systematics of Birds *(pr: 1 year biology)*	2	C,E	E	E	E
FW 316	Systematics of Fish *(pr: BI 211, BI 212, BI 213 or BI 20X series)*	3	C	E	E	E
FW 318	Systematics of Mammals *(pr: 1 year biology)*	2		C,E	E	E
Z 474	Systematic Herpetology *(pr: 1 year biology)*	2	*currently not offered*			
Select one additional course from either Vertebrate Biology or Systematics		**2-4**	see above for schedule			

** = Bacc Core; ^ = WIC; pr = prerequisite; coreq = corequisite; rec = recommend;*
C = Corvallis Campus; E = Ecampus; H = Hatfield Marine Science Center

Classes subject to change at any time. Verify offerings online in the Schedule of Classes.

ADVANCED CORE *(select 6)* *^WIC courses can double count*		Credits	Term and Campus			
GENETICS & EVOLUTION *(select 1)*		**3-5**	**F**	**W**	**S**	**U**
ANS 378	Animal Genetics *(pr: ANS 121 & ST 351 rec. & C- or better in BI 211, BI 212, BI 213)*	4	C		E	
BI 311	Genetics *(pr: C- or better in BI 21X or 20X series)*	4	C,E	C,E	C,E	C
BI 345	Introduction to Evolution* (STS)	3	E	E		E
FW 370	Conservation Genetics *(pr: BI 211, BI 212, BI 213 or BI 20X series)*	4	E	E	E	
PBG 430	Plant Genetics *(pr: 1 year biology & 1 year chemistry)*	3		C		
Z 422	Comparative Anatomy *(pr: C- or better in BI 211, BI 212, BI 213)*	5	C			
BEHAVIOR & PHYSIOLOGY *(select 1)*		**3-4**	**F**	**W**	**S**	**U**
ANS 311	Principles of Animal Nutrition *(pr: D- or better in BI 211 & BI 212)*	3	C			E
ANS 314	Animal Physiology *(pr: biology series = to BI 211-213 & junior standing or higher)*	4		C		E
FW 469	Methods in Physiology and Behavior of Marine Megafauna	3	E			
FW 471	Environmental Physiology of Fishes *(pr: BI 370 & FW 315)*	4		C		
FW 474	Early Life History of Fishes *(pr: FW 315) (Corvallis - F '18, F'20)*	4	C'18			
FW 475	Wildlife Behavior *(pr: 9 credits upper division biology)*	4	E	E	E	
FW 476	Fish Physiology *(pr: FW 315)*	4			E	
Z 350	Animal Behavior *(pr: C- or better in BI 21X or 20X series)*	3	E	C	E	
Z 423	Environmental Physiology *(pr: C- or better in BI 21X or 20X series)*	3	C	E		
Z 431, 432	Vertebrate Physiology *(pr: C- or better in BI 211, 212, 213 & D- or better in CH 332)*	4		C 431	C432	
HABITATS & ECOSYSTEMS *(select 1)*		**3-5**	**F**	**W**	**S**	**U**
BI 351	Marine Ecology *(pr: C- or better in BI 21X or BI 20X series)*	3	E	C		
FES 341	Forest Ecology	3	C,E		E	
FES 342	Forest Types of the Northwest	3		E		
FES 440/RNG 446	Wildland Fire Ecology *(pr: jr. or sr. standing, course work in ecology & NR mgmt.)*	3		C,E	E	
FW 426	Coastal Ecology & Resource Management (can be used as a substitute for FW 488)	5	H,E			
FW 434	Estuarine Ecology	4	C,H	E		
FW 435	Wildlife in Agricultural Ecosystems^ *(pr: BI 370 & FW 251)*	3	E	C,E	E	
FW/FES 445	Ecological Restoration *(pr: BI 370 or instructor approval)*	4	E		C,E	E
FW/FES 452	Biodiversity Cons. of Managed Forests *(pr: FOR 240 or FOR 341 or BI 370)*	3	E		C	
FW 456	Limnology *(pr: senior standing)*	5		E	C,E	
FW 462	Ecosystem Services *(pr: BI 370)*	3			E	
FW 467	Antarctic Science and Conservation	4	E			
FW 479	Wetlands and Riparian Ecology *(pr: BI 370 or BI 371) (Corvallis - S'18, S'20)*	3	E	E	C'18,E	E
RNG 341	Rangeland Ecology and Management	3	C,E	C,E	C,E	E
SPECIES CONSERVATION & MANAGEMENT *(select 1)*		**3-4**	**F**	**W**	**S**	**U**
FW 419	Nat. Hist. Whales & Whaling *(pr: background: vertebrate ecology & evolution)*	3	H	E		
FW/BI 421	Aquatic Biological Invasions *(pr: 1 year biology)*	4		E		H
FW 427	Principles of Wildlife Diseases *(pr: junior standing or approval)*	4			E	E
FW 451	Avian Conservation and Mgmt. *(pr: FW 311) (Corvallis - F'17, F'19)*	3	C'17, E	E		
FW 454	Fishery Biology^ *(pr: FW 315 & FW 320)*	4	C	E		
FW 458	Mammal Conservation Mgmt. *(pr: 9 credits of upper-division biological sciences)*	4	E	E	C	
FW 464	Marine Conservation Biology *(pr: BI 370 & seniors & post baccs only)*	3	C,H			
FW 465	Marine Fisheries	4	C,H			
FW 473	Fish Ecology *(pr: BI 370 & FW 315)*	4		C	E	
FW 481	Wildlife Ecology *(pr: BI 370 & FW 311, FW 320 & ST 351)*	3	C		E	E
FW/MB 491	Fish Diseases in Conservation Biology and Aquaculture (Sp'18, Sp'20)	3			C '18	
BOTANY *(select 1) - Students may sub FW 434 or FW 479 for this category with advisor approval*		**3-4**	**F**	**W**	**S**	**U**
BOT 313	Plant Structure *(pr: BI 213)*	4		C		
BOT 321	Plant Systematics *(pr: BI 213)*	4			C	
BOT 323	Flowering Plants of the World^ *(pr: 1 year college biology)(W'17,'19)*	3		C'17		
BOT 331	Plant Physiology *(pr: BI 213 & CH 123 or CH 233 & 263)*	4		C,E	E	
BOT 341	Plant Ecology *(pr: BI 213, BOT 321 recommended)*	4	E		C, E	
BOT 416	Aquatic Botany *(pr: BI 213)*	4	C			
BOT 440	Field Methods in Plant Ecology *(pr: 1 course in ecology & statistics)*	4			E	E
BOT 442	Plant Population Ecology *(pr: BOT 341 or equivalent)*	3				
BOT 488	Environmental Physiology of Plants *(pr: 1 course in plant physiology or ecology)*	3		C		
RNG 353	Wildland Plant Identification	4	C		E	E
Select one additional course from the sections above in the FW Advanced Core list		***3-5***	***see above for schedule***			

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C = Corvallis Campus; E = Ecampus; H = Hatfield Marine Science Center
(CGI) = Contemporary Global Issues; (STS) = Science Technology & Society

PHYSICAL AND EARTH SCIENCES ***(select 3)*** ***(CGI) & (STS) courses can double count with Baccalaureate Core.*** ***(CGI) & (STS) cannot be from the same Department.***		**Credits**	**Term and Campus**			
			F	**W**	**S**	**U**
Select 3 courses from the categories below: ***no more than 2 courses from any single category; cannot double count with FW Core***		**9-13**				
PHYSICS & MATH		**3-10**				
PH 201	General Physics* *(pr: MTH 111 & 112)*	5	C			C
PH 202	General Physics* *(pr: MTH 111 & 112)*	5		C		C
PH 203	General Physics* *(pr: MTH 111 & 112)*	5			C	C
PH 211	General Physics with Calculus* *(pr: MTH 251)*	4	C	C	C	C
PH 212	General Physics with Calculus* *(pr: MTH 251)*	4	C	C	C	C
PH 213	General Physics with Calculus* *(pr: MTH 251)*	4	C	C	C	C
PH 331	Sound, Hearing, and Music* (STS) *(pr: upper division standing, 1 yr science)*	3		C		
PH 332	Light, Vision, and Color* (STS) *(pr: upper division standing, 1 yr science)*	3	C			
MTH 241	Calculus for Management and Social Science* *(pr: MTH 111 or placement test)*	4	C,E	C,E	C,E	C,E
MTH 251	Differential Calculus* *(pr: MTH 112 or placement test)*	4	C,E	C,E	C,E	C,E
MTH 252	Integral Calculus *(pr: MTH 251)*	4	C,E	C,E	C,E	C,E
MTH 268	Mathematical Ideas in Biology	4				
EARTH SCIENCES		**3-8**				
ATS 210	Introduction to the Atmospheric Sciences *(pr: MTH 111 & 112)*	3				
ATS 320	The Changing Climate* (STS)	3				
GEO 201	Physical Geology*	4	C	C		
GEO 202	Earth System Science*	4		C		
GEO 203	Evolution of Planet Earth*	4			C	
GEO 221	Environmental Geology*	4	E	E	C	
GEO 305	Living with Active Cascade Volcanoes* (STS)	3	E		C,E	C
GEO 306	Minerals, Energy, Water, and the Environment* (STS)	3	E	E	C	E
GEO 307	National Park Geology and Preservation* (STS)	3	C		E	E
GEO 308	Global Change and Earth Sciences* (CGI)	3	E	C,E	E	C,E
GEO 322	Surface Processes *(pr: GEO 102 or 202 (D-) and MTH 251 (C-) and PH 201 or PH 211 (D-))*	4	C			
GEOG 323	Climatology^ *(pr: GEOG 101 & 202) (previously GEO 323)*	4	E	E	C	
OC 201	Oceanography*	4	C	C	E	
OC 332	Coastal Oceanography	3		C		
SOIL 205	Soil Science* & SOIL 206 Lab or FOR 206 Lab *(pr or coreq: SOIL 206 or FOR 206)*	4	C	C	C	C
CSS 205	Soil Science* (Ecampus version of SOIL 205)	4	E	E	E	E
Most 400 level geology courses are appropriate but may have 200-300 level prerequisites		3-4	see schedule of classes			
CHEMISTRY		**3-8**				
BB 350	Elementary Biochemistry *(pr: CH 331 & 332)*	4	E	E	C,E	E
CH 130	General Chemistry of Living Systems *(pr: 1 yr general CH)*	4	E	E	C,E	E
CH 324	Quantitative Analysis *(pr: CH 123 or 233 & 263 or 226)*	4	C	C	C	C
CH 331	Organic Chemistry *(pr: CH 123 or 233 & 263 or 226)*	4	C,E	C,E		C
CH 332	Organic Chemistry *(pr: CH 331 and 1 yr general CH)*	4		C,E	C,E	C
CH 334	Organic Chemistry *(pr: CH 123 or 233 & 263 or 226)*	4	C			
CH 335	Organic Chemistry *(pr: CH 334)*	4		C		
CH 336	Organic Chemistry *(pr: CH 335)*	4			C	
CH 390	Environmental Chemistry *(pr: CH 331)*	3		C,E	C,E	
TOX 360	The World of Poisons* (STS) *(pr: 3 cr chemistry or biology)*	3	C			

HUMAN DIMENSIONS ***(select 3)*** ***(CGI), (STS), & (DPD) courses can double count as Baccalaureate Core.*** ***(CGI) & (STS) courses cannot be from the same Department.***		**Credits**	**Term and Campus**			
			F	**W**	**S**	**U**
Select three courses from the list below. Bolded are highly recommended.		**9-12**				
AEC 250	Intro. to Environmental Economics & Policy* (SPI) *(pr: MTH 111 or equiv. rec.)*	3	E	C, E	C,E	C,E
AEC 351	Natural Res Econ & Policy*(CGI) *(pr: AREC 250 or AEC 250 or ECON 201 & MTH 111)*	3	E	C	C,E	E
AEC/ECON 352	**Environmental Economics & Policy* (CGI) *(pr: ECON 201)***	3	C,E	E	C,E	
AEC 432	Environmental Law *(pr: junior standing)*	4	C		E	
AG 301	Ecosystem Science of Pacific NW Indians* (DPD)	3	C,E	C,E		E
ANTH 481	Natural Resources & Community Values* (STS) *(pr: 3 credits social science)*	3		E		
BI 301	Human Impacts on Ecosystems* (CGI) *(pr: 1 yr college BI or CH & junior standing)*	3		C		
BI 348	Human Ecology* (STS)	3		E		
BOT 322	Economic and Ethnobotany: Role of Plants in Human Culture	3		E	E	

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HUMAN DIMENSIONS (*continued)*			**F**	**W**	**S**	**U**
FES 351	Recreation Behavior & Management *(pr: FES 251 C-)*	4		C		
FES 355	Management for Multiple Resource Values	3	E		E	
FES 360	Collaboration and Conflict Management	3				
FES 365	Issues in Natural Resources Conservation* (CGI)	3		E		E
FES 432	Economics of Recreation Resources *(pr: ECON 201 & ST 351)*	4				
FES 485	Consensus & Natural Resources* (STS)	3	C,E	C,E	C,E	
FOR 330	For Resource Econ *(pr: AEC 250 or AREC 250 or ECON 201 & MTH 241 or 245 or 251)*	4		C		
FOR/FE 456	International Forestry* (CGI) *(pr: introductory course in biology)*	3			C	
FOR 462	Natural Resource Policy & Law	3	C			
FW 325	Global Crises in Resource Ecology* (CGI)	3	E	E	E	E
FW 340	**Multicultural Perspectives in Natural Resources* (DPD)**	3	E	E	C, E	E
FW 350	Endangered Species, Society, Sustainability* (STS) *(pr: FW 251)*	3	C,E	E	C'17,E	E
FW 360	Origins of F & W Management - Evo., Gen., & Ecol.* (STS) *(pr: 2 terms @ OSU)*	3	E	E	E	
FW 415	Fisheries & Wildlife Law & Policy (*pr: PS 201 or other intro political sci. course)*	3		E		
FW/FES 439	Human Dimensions of F&W Mgmt.^ *(pr: FW 251 & introductory statistics)*	3	E			
FW 470	Eco Hist Ldscp Columbia Basin* (STS) *(pr: HST 201 & HST 202 & HST 203 or BI 370)*	3		E		
GEOG 300	Sustainability Common Good*(STS or CGI) *(pr: upper division standing) (previously GEO)*	3	C,E	C,E	C,E	C,E
HST 481	Environmental History of the US* (STS) *(pr: upper div. stand. & HST 201/2/3 rec.)*	4	E	E,C	E	E
HSTS 415	Theory Evol & Fndtn of Modern Bio*^ (STS) *(pr: upper division standing)*	4	C			
OC 333	Oceans, Coasts & People *(pr: OC 331, full seq OC 331/2/3 rec.)*	3	C		C	
PHL 440	Environ. Ethics *(pr: PHL 205, PHL 342, PHL 365 or 6 cr. PHL & soph. standing)*	3		C		E
PHL 443	World Views & Environmental Values* (CGI) *(pr: soph. stand; 1 intro sci. course)*	3	C,E	C,E	C,E	C,E
PS 475	Environmental Politics & Policy *(pr: PS 201)*	4	C,E	E	E	E
PS 476	Science & Politics* (STS) *(pr: PS 201 or 6 cr lower division PS)*	4		E	C	E
SOC 480	Environmental Sociology* (CGI) *(pr: SOC 204)*	4	C			E
SOC 481	**Society & Natural Resources* (STS) *(pr: SOC 204)***	4	E	E	C,E	E
SOIL 335/GEOG 340	Introduction to Water Science & Policy* (STS) (previously GEO 335)	3	C,E	E	C,E	C,E

SPECIALIZATION *(courses selected when you take FW 307)*		**24**	
Additional FW courses that could be used to count towards the Specialization or Electives sections:			
FW 111 Introduction to Marine Life in the Sea	FW 407 Seminar		
FW 112 The Science of Fly Fishing for Trout	FW 422 Introduction to Ocean Law		
FW 301 Field Techniques for Marine Mammal Conservation	FW 431 Dynamics of Marine Biological Resources		
FW 303 Survey of GIS in Natural Resources	FW 472 Advanced Ichthyology		
FW 323 Management Principles of Pacific Salmon in the NW	FW 493 Field Methods for Marine Research		
FW 326 Integrated Watershed Management	FW 496 Fish Diseases in Conservation Biology and Aquaculture Lab		
FW 328 Wildlife Capture and Immobilization	FW 497 Aquaculture^		
FW 341 Fish and Wildlife Law Enforcement	FW 498 Aquaculture Lab		
FW 356 Citizen Science	FW 499 Special Topics		
FW 366 Environmental Contaminants in Fish and Wildlife			

BACCALAUREATE CORE ***With the exception of Speech and WIC, this section is only required for students earning their first degree.***		**48**	
HHS 231	LIFETIME FITNESS LECTURE	2	*See baccalaureate core schedule of classes.*
HHS 241 or PAC	LIFETIME FITNESS LAB	1	
Met with FW Core	MATHEMATICS (MTH 111 or higher)	4	
Met with FW Core	WR 1, WR 2, & SPEECH	9	
Perspective Courses: *no more than two courses from one Department*	CULTURAL DIVERSITY (CD)	3	
	LITERATURE & THE ARTS (LA)	3	
	SOCIAL PROCESSES & INSTITUTIONS (SPI)	3	
	WESTERN CULTURE (WC)	3	
Met with FW Core	PHYSICAL SCIENCE	4	
Met with FW Core	BIOLOGICAL SCIENCE	4	
Met with FW Core	ADDITIONAL PHYSICAL OR BIOLOGICAL SCIENCE	4	
	DIFFERENCE, POWER, & DISCRIMINATION (DPD)	3	
Synthesis Courses: can't be from the same Dept.	SCIENCE, TECHNOLOGY, & SOCIETY (STS)	3	
	CONTEMPORARY GLOBAL ISSUES (CGI)	3	
WR1, SPEECH, & Bacc Core Math must be completed within the first 45 OSU credit hours. WR2 within the first 90 OSU credit hours.			

ELECTIVES *(for first degree students)*	**0-22**	
(CGI) = Contemporary Global Issues; (STS) = Science Technology & Society		
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BIOLOGY SERIES

Please note that the BI 204, 205, 206 series is only available to Ecampus students and cannot be mixed with the BI 211-213 series. It does not serve as a prerequisite to the following courses in the Fisheries and Wildlife curriculum: Z 422, Z 431, and Z 432. Also, this series may not be appropriate for careers in Veterinary, Dental, or Medical Sciences or any degrees offered through the OSU College of Science, please consult with your advisor before enrolling in the series.

AREA OF SPECIALIZATION (24 credit minimum)

To supplement the Advanced Fisheries and Wildlife Core, students develop an additional set of classes, called the "Specialization," that are focused on the student's career interests. The Specialization selection process, along with career development activities, is part of FW 307: Specialization Development. Students generally take this course their junior year after consultation with their advisor. Students work with the course instructor and their advisor to finalize the courses within their Specialization.

Specializations are in addition to Fisheries and Wildlife Core/Advanced Core courses and must contain a minimum of 24 credits. At least 20 credits within a Specialization will be from upper division (300 and 400 level) courses; no more than four lower division credits are allowed. A maximum of two courses may be completed prior to approval of the Specialization, additional upper division credits may be allowed through petition to advisor. With the exception of Writing Intensive Courses (WIC), double counting (when credit is given twice for a course), is not permitted between the Specialization and other University or Departmental course work. For students completing their first BS degree, 12 credit hours applied towards their minor may also be applied towards the Specialization (requires approval by Advisor in Minor Department and FW Advisor). A maximum of 12 credit hours, in any combination, of FW 401 Research and FW 410 International Internship can be used towards the specialization. Post Baccalaureate students who are completing their second degree may use a maximum of 12 credits from their first degree towards their specialization (approved by FW Advisor).

FW 410 INTERNSHIPS (4 credits minimum)

There are two types of internships: Exploratory (1-2 credits) and Intensive (3-6) credits. Students are required to complete a minimum of two internships or other approved alternative experiences (one of each type) for their degree. Students are encouraged to start gaining professional experience by volunteering or interning with a natural resource agency as early as possible and no later than their junior year. Both internships should be completed at least two terms prior to graduation and need not be sequential.

The **Exploratory Internship** helps students explore career directions. It involves a professional experience with at least 40 hours of learning time off campus in a natural resource setting. Most students attend a professional conference, such as the Annual Conference of The Wildlife Society or American Fisheries Society, or assist a professional biologist with field work.

The **Intensive Internship** helps students experience work as a professional and gain technical skills that complement the academic/conceptual knowledge learned in classes. It involves a professional experience in an off-campus natural resource organization for a long enough time period and with enough depth and breadth to gain competence in one or more facets of a position or organization. This experience often leads to the student performing professional duties independent of supervision.

Students need to register for the FW 410 internship class for the term in which their internship occurs (even if it is summer term). Before registering, students must have their internship approved by the FW Internship Coordinator. The Internship Coordinator is responsible for guiding students, providing general oversight, and final evaluation of the internship/experience requirement. Before beginning the internship, a formal letter of understanding between the student, department, and mentor in the natural resource profession must be submitted by the student.

At the conclusion of the experience the student will complete the course by meeting the requirements listed on the FW 410 class syllabus, including submission of a resume and brief report describing the activities and what was learned. Mentors may provide a brief evaluation of the student's education.

For more information, contact the Internship Coordinator:
Danielle Jarkowsky, Danielle.Jarkowsky@oregonstate.edu, Nash 104E

FW 488 CAPSTONE COURSE 3 credits

Students participate in the capstone experience through FW 488 Problem Solving in Fisheries & Wildlife Science. This course is taken after a student has reached at least senior standing and is as close to the end of their degree requirements as possible. Students are required to complete FW 320 & FW 321 and are recommended to have taken one or more 400 level FW classes before they begin the capstone course. The capstone course is 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. It includes a group problem solving project and case studies.

FW 488 Problem Solving in Fisheries & Wildlife Science (3 credits)

This course focuses on three activities: 1) a review of several 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, and; 3) independent work by students in small groups on a selected topic of their choice. 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. Projects include data analysis and/or synthesis, literature review, and/or evaluation of the social and economic systems involved in the controversy or management problem.