Prep & Depth 2014-2015

Wildlife, Fish, and Conservation Biology (WFCB) is an ecologically oriented major that addresses the interactions of humans with animals in both natural and disturbed environments. Students are trained in the basic sciences, mathematics, and the biology and conservation of vertebrates in California and in many other parts of the world. The emphasis on basic sciences provides our students with the intellectual flexibility to handle the varied and often unexpected problems faced by biologists in the field and laboratory. It also makes sure students are prepared for graduate and professional schools and for alternative careers.

Preparatory Subject Matter Requirements

Preparatory Subject Matter	(46-47 Units)	Quarter(s) Offered***	Units	Completed	Notes
Written/Oral Expression					
University Writing Program 1	Expository Writing	I, II, III, IV	4	_____	_____
Communication 1	Introduction to Public Speaking	I, II, III, IV	4	_____	_____
Chemistry					
Chemistry 2A	General Chemistry	I, II, IV	5	_____	_____
Chemistry 2B	General Chemistry	II, III, IV	5	_____	_____
Chemistry 8A	Organic Chemistry	I, III, IV	2	_____	_____
Chemistry 8B	Organic Chemistry	I, II, IV	4	_____	_____
Biological Sciences					
BIS 2A	Introductory Biology	I, II, III, IV	4	_____	_____
BIS 2B	Introductory Biology	I, II, III, IV	5	_____	_____
BIS 2C	Introductory Biology	I, II, III, IV	5	_____	_____
Mathematics					
Mathematics 16A	Short Calculus	I, II, III, IV	3	_____	_____
Mathematics 16B	Short Calculus	I, II, III, IV	3	_____	_____
Physics					
Physics 1A	Principles of Physics	I	3	_____	_____
Physics 1B	Principles of Physics	II	3	_____	_____
Statistics					
Choose one of the following					
Statistics 100	Applied Statistics for Bio Sciences	I, II, III, IV	4	_____	_____
Plant Sciences 120	Applied Statistics in Ag Science	I	4	_____	_____
Wildlife & Conservation					
Choose one of the following					
WFC 10	Wildlife Ecology and Conservation	I, III	4	_____	_____
WFC 11*	Introduction to Conservation Biology	III	3	_____	_____
WFC 50	Natural History of CA Vertebrates	II	3	_____	_____

I = fall quarter, II = winter quarter, III = spring quarter, IV = summer session
*Course is offered in odd years only (2013, 2015, etc.)
**Course is offered in even years only (2012, 2014, etc.)
***Course offerings are subject to change. Check with your adviser for the most updated listings.

Depth Subject Matter Requirements

NOTE: Students graduating with this major are required to attain at least a C average (2.0 GPA) in all courses taken at the university in Depth Subject Matter *and* pass all coursework. See requirements of the College in the UCD General Catalog.

Depth Subject Matter	(54-60 Units)	Prerequisites	Qtr(s)***	Units	Completed
Ecology *(Choose one of the following)*					
ESP 100	General Ecology	BIS 2A-C; MAT 16A-B; STA 13 recommended	I, II	4	_____
EVE 101	Introduction to Ecology	BIS 2A-C; MAT 16A-C (or equiv.)	I, II, III, IV	4	_____
Genetics					
BIS 101	Genes and Gene Expression	BIS 2A-C (2C may be concurrent); CHE 8B (may be concurrent)	I, II, III, IV	4	_____
Evolution					
EVE 100	Introduction to Evolution	BIS 2A-C; BIS 101; MAT 16A-C or equiv; STA 13 or 100	I, II, III, IV	4	_____
Physiology					
WFC 130	Physiological Ecology	EVE 101 or ESP 100 or equivalent	II	4	_____
Animal Behavior *(Choose one of the following)*					
NPB 102	Animal Behavior	BIS 2A-C	II, III, IV	3	_____
WFC 141**	Behavioral Ecology	EVE 101 or ESP 100 or equivalent	II	4	_____
Conservation Biology					
WFC 154	Conservation Biology	EVE 101 or ESP 100 or equivalent	I	4	_____
Population Biology					
WFC 122	Population Dynamics and Estimation	MAT16A-B; STA13 or equiv; EVE 101, ESP 100, or equiv	III	4	_____
Organismal Core *(Choose 3 lecture courses and 2 laboratory courses)*					
WFC 110	Biology & Conservation of Wild Mammals	BIS 2A-C; EVE 101 or ESP 100 or equivalent	III	3	_____
WFC 110L	Lab in Biology & Conservation of Wild Mammals	WFC 110 (may be concurrent); consent of instructor	III	3	_____
WFC 111	Biology & Conservation of Wild Birds	BIS 2A-C; EVE 101 or ESP 100 or equivalent	I	3	_____
WFC 111L	Lab in Biology & Conservation of Wild Birds	WFC 111 (may be concurrent); consent of instructor	I	3	_____
WFC 120	Biology & Conservation of Fishes	BIS 2A-C	I	3	_____
WFC 120L	Lab in Biology & Cons of Fishes	WFC 120 (may be concurrent)	I	2	_____
WFC 134*	Herpetology	BIS 2A-C; EVE 101, ESP 100 or equivalent rec.	II	3	_____
WFC 134L*	Herpetology Laboratory	EVE 134 concurrently	II	2	_____
Research Methods *(Choose one of the following)*					
WFC 100	Field Methods in Wildlife, Fish, & Cons. Bio	EVE 101 or ESP 100 or equivalent; consent of instructor	III	4	_____
WFC 101/L**	Field Research in Wildlife Ecology + Lab	Consent of instructor & 1 upper division course in ecology, statistics, and ornithology, mammalogy, or herpetology	I	2/4	_____
GIS Technology *(Strongly recommended, but not required)*					
ABT/LDA 150	Geographic Info Systems	PLS 21 or equivalent with consent of instructor	I	4	_____
Anatomy *(Strongly recommended, but not required)*					
APC 100	Comparative Organology of Vertebrates	BIS 2A-B	II	4	_____

I = fall quarter, II = winter quarter, III = spring quarter, IV = summer session
*Course is offered in odd years only (2013, 2015, etc.)
**Course is offered in even years only (2012, 2014, etc.)
***Course offerings are subject to change. Check with your adviser for the most updated listings.

Fish Biology 2014-2015

Why study Fish Biology?
Fish are the most diverse of all vertebrates, plus they are a major source of healthy food for the world's people. You really need no other reason to study them. Actually the fish biology option is more of an aquatic biology option with an emphasis on fish. The curriculum prepares you for jobs with fisheries and conservation agencies, as well as for graduate school in diverse areas of aquatic biology. Internships and independent studies are encouraged, to gain experience while you are in school. Students in this option get wet on occasion and get to feel slime produced by a wiggling fish in their hands. Try it; you will like it.

Required Courses		Prerequisites	Qtr(s)***	Units	Completed
WFC 120/L	Biology & Conservation of Fishes	BIS 2A-C	I	3	_____
	Lab in Biology & Cons of Fishes	WFC 120 (may be concurrent)	I	1	_____
Choose one Invertebrates course					
EVE 112/L**	Biology of Invertebrates	BIS 2B-C	II	3	_____
	Biology of Invertebrates: Lab	EVE 112 concurrently	II	2	_____
ENT 116	Biology of Aquatic Insects	BIS 2B or the equivalent	III	3	_____
Choose three Aquatic Systems courses					
ESM 100	Principles of Hydrologic Science	CHE 2B; Math 16B; PHY 7A or 9A	I	4	_____
HYD 143**	Hydrological Processes in Ecosystems	HYD 141 or ESM 100	II	3	_____
ANS 118[††]	Fish Production	WFC 120 and 121		4	_____
EVE 115*	Marine Ecology	EVE 101, ESP 100, BIS 2A or consent of instructor	II	4	_____
WFC 155/L	Habitat Conservation & Restoration + Lab	EVE 101 or ESP 100 or equivalent; WFC 154 & ENH 160 recommended	II	3/2	_____
ESP 116N**	Oceanography	GEL 1, 2, 16, or 50	II	3	_____
ESP 150C	Biological Oceanography	BIS 2A; course in general ecology or consent of instructor	IV	4	_____
ESP 151[††]	Limnology	BIS 2A; junior standing		4	_____
ESP 151L[††]	Limnology Laboratory	ESP 151 concurrently		3	_____
WFC 157[††]	Coastal Ecosystems	EVE 101, ESP 100 or equiv; course work in organismal bio, phys geography, & geology rec		4	_____
Choose one Water Policy/Law course					
ABT/LDA 150	Introduction to Geographic Info Systems	PLS 21 or equivalent with consent of instructor	I	4	_____
HYD 150	Water Law	ESM 100 or 121 or consent of instructor	II	3	_____
ESP 161	Environmental Law	Upper division standing; one course in env. science (i.e.: ESP 1, 10, 110, BIS 2A, ETX 10, or ESM 100)	III	4	_____
ESP 169**	Water policy and politics	ECN 1A; POL 1	III	4	_____

[†] Course is not regularly offered [††]Future availability unknown

I = fall quarter, II = winter quarter, III = spring quarter, IV = summer session
*Course is offered in odd years only (2013, 2015, etc.)
**Course is offered in even years only (2012, 2014, etc.)
***Course offerings are subject to change. Check with your adviser for the most updated listings.

I = fall quarter, II = winter quarter, III = spring quarter, IV = summer session
*Course is offered in odd years only (2013, 2015, etc.)
**Course is offered in even years only (2012, 2014, etc.)
***Course offerings are subject to change. Check with your adviser for the most updated listings.