

ENVIRONMENTAL BIOLOGY & MGMT.

(EBM)

Recommended classes are BOLDED

	English Composition Requirement (this also covers College requirements)	subject A (see pg. 83)	3 classes 11-12 units
	UWP 1 or ENL 3	(A/P can count for one)	4 units
AND	UWP 101, 102B, 102G or UWP 104 series	(or take Comp. test)	4 units
AND	CMN 1 or 3 (4) Intro. To Public Speaking or Interpersonal Comm or DRA 10 (3) Intro. To Acting		3-4 units
	Preparatory Subject Matter		11 classes 47-50 units
	BIS 1A or 2A (4-5) Introductory Biology	(Prereq: CHE 2B-concurrent o.k.)	all 3 Bio. Sci. req. 14-15 units
	BIS 1B or 2B (5) " "		
	BIS 1C or 2C (5) " "		
	CHE 2A (5) I, II General Chemistry		2 classes Chem.req. 10 units
	CHE 2B (5) II, II " "	(Prereq: 2A or 2H)	
OR	CHE 2AH (5) I Honors	(Prereq: MAT 21A-concurrent o.k., or consent)	
	CHE 2BH (5) II " "	(Prereq: 2A or 2H & MAT 21B-concurrent o.k.)	
REQUIRED	ESP 1 (4) III Environmental Analysis	(Prereq: ECN1A & 1B, BIS 1A, POL1 rec.)	4 units
	POL 1 (4) Amer. National Govt.		1 Policy class req. 4 units
OR	ECN 1A (4) Prin. of Micro. [choose if Envir. Mgmt. Option is selected]	**strongly encourage to take	
	MAT 16A (3) Short Calculus (easier)		2 classes Math req. 6-8 units
	MAT 16B (3) " "	(Prereq: 16A or 21A)	
OR	MAT 21A (4) Calculus (classical)		
	MAT 21B (4) " "	(Prereq: 21A)	
	PHY 7A (4) General Physics (easier)	(Prereq: MAT 16B-con. o.k.)	2 classes Physics req. 8-10 units
	PHY 7B (4) " "	(Prereq: 7A)	
OR	PHY 9A (5) I, III Classical Physics	(Prereq: MAT 21B)	
	PHY 9B (5) I, II " "	(Prereq: 9A, MAT 21C & 21D-concurrent o.k. with D)	
	Breadth/General Education		
	to include 12 units of humanities and/or Civilization and Culture. See advisor for more details-many of your required classes do also give credit for general education.		
	Depth Subject Matter		8 classes 28-32 units
	Ecology		1 Ecology class req. 4 units
Select 1	ESP 100 (4) I, II General Ecology	(Prereq: BIS 1 or 2A, B, C, MAT 16A, 16B, STA 13 rec.)	
	PLB 117 (4) I Plant Ecology	(Prereq: BIS 1 or 2A, B, C, PLB 111 rec.)	
	EVE 101 (4) Evolution & Ecology	(Prereq: BIS 1 or 2A, B, C, MAT 16A, 16B, MAT 16C or equiv.)	
	WFC 151 (4) I Wildlife Ecology	(Prereq: BIS 1 or 2A, B, C, or equiv. WFC 110 or 111L rec.)	

		Survey of Environ. Sci.		2 Survey classes req.	
AND	ESP 110 (4) II	Prin. of Environ. Sci.	(Prereq: PHY 1A or 7A, MAT 16B, and BIS 1A)		8 units
	ESP 172 (4) I	Public Lands Mgmt.	(Prereq: ECN 1A)		
		Physical Processes in the Environ.		2 Processes classes req.	6-8 units
Select 2	ATM 120 (4) I	Atmospheric Science	(Prereq: extensive prob. Solving, MAT 21C, PHY 9B, & ATM 60-con. o.k.)		
	ATM 133 (4) II	Biometeorology	(1 Biology course and MAT 16B or consent)		
	ESP 116N (3) II	Oceanography	(Prereq: One of the following: GEL 1, 2, 16, or 50)		
	ESP 150A (4) I	Phy. & Chem. Oceanography	(Prereq: ESP 116, PHY 9B, MAT 21D, CHE 2C or upper-div. stand. and consent)		
	ESP 150B (3) II	Geological Oceanography	(Prereq: GEL 50 or ESP 116)		
	ERS 121 (3) I	Water & Society	(Prereq: PHY 10 or GEL 1)		
	ERS 131 (3) III	Air as a Resource	(Prereq: CHE 10)		
	GEL 134 (3) II	Environ. Geo. & Land Use Planning	(Prereq: GEL 50 or 1 or consent)		
	HYD 141 (4) I	Phy. Hydrology	(Prereq: PHY 9B, MAT 21B,)		
	SSC 100 (5) I	Prin. of Soil Science	(Prereq: CHE 2A & B, PHY 1A & B, BIS 1 or 2A, GEL 50, BIS 1 or 2C rec.)		
	SSC 118 (4) III	Soil Science- Soils in Land Use & Env.	(Prereq: SSC 100 or consent)		
		Environ. Policy		1 Env. Policy req.	3-4 units
Select 1	ESP 160 (4) II	The Policy Process	(Prereq: POL 1, ECN 1A, intermediate STA., ESP 1)		
	ESP 161 (4) III	Environ. Law	(Prereq: upper div., & one course in Env. Sci.)		
	ESP 163 (4) I	Energy & Env. Aspects of Trans.	(Prereq: ECN1A, ECI 162)		<i>back in 08-09</i>
	ESP 169 (3) III	Water Policy & Politics	(Prereq: ECN 1A or POL 1)		
	ESP 171 (4) III	Urban & Reg. Planning	(Prereq: ESP 1, a course in Soc. Science and one in Env. Sci.)		
	ESP 179 (3) II	Environ. Impact Rptg.	(Prereq: upper div., & BIS 1or 2A plus one of these ESP 1, 10, 110,)		
	ARE 147 (3) III	Resource & Env. Policy Analysis	(Prereq: ECN 1A)		
	ESP 175 (4) III	Natl. Resource Econ.	(Prereq: ARE 100B, ECN 100, or equiv.)		
	ARE 176 (4) II	Environ. Econ.	(Prereq: ARE 100B, ECN 100)		
		Math. or Stats.		1 Math class req.	3-4 units
Select 1	MAT 16C (3)	Short Calc.	(Prereq: 16B or 21B)		
	MAT 21C (4)	Calc.	(Prereq: 21B or 21BH)		
	MAT 22A (3)	Linear Algebra	(Prereq: 9 units of math & ENG 6 or 22AL concurrent)		
	MAT 22B (3)	Differential Equations	(Prereq: 21C and 22A)		
	STA 100 (4)	Applied Stats. for Biological Sciences	(Prereq: MAT 16B or equiv.)		
	STA 102 (4) I, III	Intro. To Probability Modeling & Stat. Infer.	(Prereq: algebra and upper div. standing)		
OR		or select an Upper Division Math, Computing or Statistics class	(please list)		
		Research Methods		1 Research class req.	4 units
Select 1	ESP 123 (4) III	Intro.to Field & Lab Meth.	(Prereq: 100 or the equiv. and STA 102 or equiv)		<i>back in 09-10</i>
	ESP 178 (4) II	Applied Research Meth.	(Prereq: STA 103 or SOC 106 or equiv.)	[sugg. for Envir. Mgmt.]	
	WFC 100 (4) III	Field Meth. In WFC	(Prereq: EVE 101 or ESP 100 and consent)		

Areas of Specialization		Conservation and Biology Management		7 classes	25-35 units
Required	WFC 154 (4) III ESP 170 (4) III	Conservation Biology Conservation Biology Policy	(Prereq: EVE 101 or ESP 100 or equiv.) (Prereq: ESP 1, 100 rec.)	1 class req.	4 units <i>back in 08-09</i>
Evolution and Biogeography					
Select 2	BIS 101 (4) EVE 100 (4) EVE 102 (4) II EVE 138 (5) III EVE 147 (4) I EVE 149 (4) I GEL 107 (3) I, III	Genes & Gene Expression Intro. To Eve. Pop. & Quantitative Genetics Ecology of Tropical Latitudes Biogeography Evolution of Eco. Sys. Earth Hist.-Paleobiology	(Prereq: BIS 1B, CHE 8B or 118B or 128B-o.k. concurrent) (Prereq: BIS 1A, 1B, 1C, 101, MAT 16A, 16B, 16C, or equiv., STA 13 or 100- 100 rec.) (Prereq: BIS 101, & STA 100 or 102 & EVE 100) (Prereq: 1 course in BIS, ENT, WFC, GEO or consent) (Prereq: BIS 1A & 1B) (Prereq: 101 or ESP 100 or the equiv. & EVE 100 or the equiv.) (Prereq: GEL 3-3L or BIS 1B)	2 classes req.	7-9 units <i>back in 08-09</i> <i>back in 09-10</i> <i>back in 08-09</i>
Resource Economics*					
Select 1	ARE 176 (4) II ESP 175 (4) III	Environ. Econ. Natural Resource Econ. *course selected must be different from the "Depth Subject Matter)	(Prereq: ARE 100B or ECN 100) (Prereq: ARE 100B or ECN 100 or equiv.)	1 class req.	4 units
Environmental Policy Making*					
Select 1	ARE 147 (3) III ESP 160 (4) II ESP 161 (4) III ESP 169 (3) III ESP 171 (4) III ESP 172 (4) I	Resource & Env. Policy Analysis Env. Decision Making Environ. Law Water Policy & Politics Env. Planning Public Lands Mgmt. *course selected must be different from the "Depth Subject Matter)	(Prereq: ECN 1A) (Prereq: POL 1, ECN 1A, intermediate STA., ESP 1) (Prereq: upper div., & ESP 1, 10, 110, BIS 1A, ETX 10, or ERS 100) (Prereq: ECN 1A or POL 1) (Prereq: ESP 1, a course in Soc. Science and one in Env. Sci.) (Prereq: ECN 1A)	1 class req.	3-4 units
Quantitative Analysis					
Select 1	ESP 121 (4) II WFC 122 (4) III ABT 180 (4) I	Population Eco. Population Dynamics and Estimation Intro. to Geographic Info. Systems	(Prereq: BIS 1B & C, Math 16A-B) (Prereq: MAT 16A-B, Stats. 13 or equiv. & upper div. Ecology) (Prereq: AMR 21 or equiv. familiarity with computers)	1 class req.	4 units <i>back in 08-09</i>
Field Experience*					
Select 1	ESP 123 (4) III ESP 124 (3) SS1 ESP 151L (3) III ESP 155L (3) I WFC 100 (3) III WFC 102 (6) III	Intro. To Field & Lab Meth. In Ecology Marine & Coastal Field Eco. Limnology Lab Wetland Eco. Lab Field Meth. In WFC Field Studies in Fish Bio.	(Prereq: 100 or equiv., STA 102 or equiv.) (Prereq: BIS 1A, STA 13, ESP 100) (Prereq: 151 & junior/senior stand.) (Prereq: 155- or taken concurrently) (Prereq: EVE 101 or ESP 100 and consent; add. coursework rec.) (Prereq: upper div. course in each of ecology, aquatic bio., fish bio., stats, and consent)	1 class req.	3-10 units <i>back in 09-10</i> <i>check Bodega's website</i>

*students may select BIS 122, or a course at an approved field station or off-campus field biology research site.)

Areas of Specialization**Environmental Biology Option****9 classes 24-37 units****Behavioral Ecology**

Select 1	ANT 154 (5) II	The Evolution of Primate Behavior	(Prereq: ANT 1)	1 class req.	4 units
	ENT 104 (3) II	Beh. Ecology of Insects	(Prereq: Intro. biology or zoology)		
	NPB 102 (3) II, III	Animal Behavior	(Prereq: BIS 1A, 1B, 1C)		
	PSC 122 (4) II	Advanced Animal Behavior	(Prereq: PSC 101 or NPB 102)	Same as NPB 150	
	WFC 141 (4) II	Behavioral Ecology	(Prereq: EVE 101 or equiv.)		<i>back 09-10</i>

Evolution and Genetics

Select 1	BIS 101 (4)	Genes & Gene Expression	(Prereq: BIS 1B, CHE 8B or 118B or 128B-o.k. concurrent)	1 class req.	3-4 units
	EVE 100 (4)	Intro. To Eve.	(Prereq: BIS 1A, 1B, 1C, 101, MAT 16A, 16B, 16C, or equiv., STA 13 or 100- 100 rec.)		
	GEL 107 (3) I, III	Earth Hist.-Paleobiology	(Prereq: GEL 3-3L or BIS 1B)		

Quantitative Analysis*

Select 2	MAT 22A (3)	Linear Algebra	(Prereq: 9 units of math & ENG 6 or 22AL concurrent)	2 classes req.	6-8 units
	MAT 22B (3)	Differential Equations	(Prereq: 21C and 22A)		
	STA 100 (4)	Applied Stats. for Biological Sciences	(Prereq: MAT 16B or equiv.)		
	STA 102 (4) I, III	Intro. To Probability Modeling & Stat. Infer.	(Prereq: algebra and upper div. standing)		
	STA 104 (4) I	Applied Stat. Methods: Nonparametric Stats.	(Prereq: STA 13, 32, or 102)		<i>back 08-09</i>
	STA 106 (4) I, II	Applied Stat. Methods: Analysis of Variance	(Prereq: STA 13, 32, or 102)		
	STA 108 (4)	Applied Stat. Methods: Regression Analysis	(Prereq: STA 13, 32, or 102)		
	ABT 180 (4) I	Intro. to Geographic Info. Systems	(Prereq: AMR 21 or equiv. familiarity with computers)		
		*course selected must be different from the "Depth Subject Matter)			

Taxonomy, including lab experience. Choose from the following:

Select 1	ENT 103 (3) III	Entomology-Insect Systematics	(Prereq: intro. course in zoology or ent.)	1 class req.	4-8 units
	EVE 112 (4) II	Evol. & Eco.-Invertebrate Zoology	(Prereq: BIS 1A, 1B, course 112L concurrent)		
	EVE 112L (3) II	" " "	" " "		
	PLB 102 (5) III	Plant Bio.-Calif. Floristics	(Prereq: BIS 1A, 1B, 1C or the equiv. in plant sci.)		
	PLB 108 (5) III	" -Systematics and Evo. Of Angiosperms	(Prereq: BIS 1A, 1B, 1C) (same as EVE 108)		
	PLB 116 (5) II	" -Plant Morphology & Evol.)	(Prereq: BIS 1C, PLB 105 rec.)		
	WFC 110 (3) III	Biology and Cons. of Wild Mammals	(Prereq: BIS 1A, 1B, 1C & course in ecology rec.)		
	WFC 110L (2) III	Lab "	may be taken concurrently with 110		
	WFC 111 (3) I	Biology and Cons. of Wild Birds	(Prereq: BIS 1A, 1B, 1C, and EVE 101)		
	WFC 111L (2) II	Lab "	may be taken concurrently with 111		
	WFC 120 (3) I	Biology and Cons. of Fishes	(Prereq: BIS 1B)		
	WFC 120L* (1) I	*(Lab course that goes w/lec. not req. but you might consider lab)			

Areas of Specialization**Environmental Biology Option (cont.)****23-38 units**

Select 2

Physiology, including lab experience. Choose from the following:1 class req. **3-5 units**

ENT 102 (4) III	Insect Physiology	(Prereq: ENT 100 or course in physiology or invert. zoology)
ENH 102 (4) I	Envir. Hort.-Physiological Prin. In Env. Hort.)	(Prereq: BIS 1C)
NPB 101 (5)	Systemic Physiology	(Prereq: BIS 1B, PHY 1B or 7C strongly rec.)
NPB 101L (2)	Lab- Systemic Physiology	(Prereq: 101 taken prior to lab rec. but concurrent o.k.)
PLB 111 (3) I	Plant Physiology	(Prereq: BIS 1C, CHE 8B, PHY 7C concurrent o.k. w/either-105 rec.)
WFC 121 (4) II	Physiology of Fishes	(Prereq: upper division course in NUT and physiology or consent)

Advanced Environmental Biology. Choose two:2 classes req. **4-8 units**

Select 2

AVS 100 (3) I	Avian Bio.	(Prereq: BIS 1A, 1B)	
ENH 160 (3) III	Restoration Ecology	(Prereq: PLB 117 or EVE 121 or PLB 147 or equiv.)	
ESP 121 (4) II	Population Ecology	(Prereq: BIS 1B & C, Math 16A-B)	<i>back in 08-09</i>
ESP 151 (4) III	Limnology	(Prereq: BIS 1A & junior stand.)	
ESP 151L (3) III	Limnology Lab	(Prereq: 151 & junior/senior stand.)	
ESP 150B (3) II	Geo. Oceanography	(Prereq: Geo. 50 or 116)	
ESP 155 (4) I	Wetland Ecology	(Prereq: ESP 100 or PLB 117 req., 110 or 151 rec.)	
ESP 155L (3) I	Wetland Eco. Lab	(Prereq: 155- or taken concurrently)	
EVE 149 (4) I	Evolution of Ecological Sys.	(Prereq: 101 or ESP 100 or the equiv. & EVE 100 or the equiv.)	
PLB 102 (5) III	California Floristics	(Prereq: BIS 1A,1B,1C, or the equiv. in plant sci.)	
PLB 117 (4) I	Plant Ecology	(Prereq: BIS 1A, 1B, 1C, & PLB 112, strongly rec. 102 or 108)	
WFC 100 (3) III	Field Meth. In WFC	(Prereq: EVE 101 or ESP 100 and consent; add. coursework rec.)	
WFC 120 (3) I	Biology and Conservation of Fishes	(Prereq: BIS 1B)	
WFC 120L (1) I	Bio. and Cons. Lab	(Prereq: 120 o.k. concurrently. Lab course goes w/lec. not req. but might consider lab)	
WFC 122 (4) III	Population Dynamics and Estimation	(Prereq: MAT 16A-B, Stats. 13 or equiv. & upper div. Ecology)	
WFC 130 (4) II	Physiological Ecology of Wildlife	(Prereq: 110, 111, or 120 & NPB 101, & EVE 101 or equiv. 110 rec.)	
WFC 154 (4) I	Conservation Biology	(Prereq: ESP 100 or EVE 101 or equiv.)	
WFC 155 (4) II	Habitat Conservation and Restoration	(Prereq: intro. ecology course, WFC 154 and ENH 160 rec.)	

Areas of Specialization		Environmental Management Option	7 classes	24-27 units
Select 1	ESP 170 (4) III ARE 176 (4) II	Conserv. Bio. Policy Environ. Economics	(Prereq: 1 & ECN 1A; ECN 100 rec.) (Prereq: 100B or ECN 100)	<i>back in 08-09</i> 1 class req. 4 units
Select 1	ECN 100 (4) ECN 104 (4) ARE 100A (4)	Inter. Micro Theory Intermediate Micro. Intermediate Micro.: Theory of Prod. & Cons.	(Prereq: 1A, 1B; MAT 16 A-B, or 21 A-B with a grade of C- at least) (Prereq: 1A, 1B; MAT 16 or 21 A) (Prereq: ECN 1A, 1B & MAT 16B)	1 class req. 4 units
Select 1	ESP 161 (4) III ESP 169 (3) III ESP 171 (4) III	Environ. Law Water Policy & Politics Env. Planning	(Prereq: upper div., & one course in Env. Sci.) (Prereq: ECN 1A or POL 1) (Prereq: ESP 1, a course in Soc. Science and one in Env. Sci.)	1 class req. 3-4 units
Required	ESP 179 (3) III	Environ. Impact Rptg.	(Prereq: upper div., & ESP 1, 10, 110, BIS 1A, ETX 10, or ERS 100)	1 class req. 3 units
Select 1	ARE 106 (4) SOC 106 (4) I, III STA 108 (4)	Quant. Meth. In Ag. Econ. Intermediate Social Stat. Applied Stat. Methods-Regression Analy.	(Prereq: 100A, STA 103) (Prereq: 46B or STA 13 or equiv.) (Prereq: 13, 32, or 102)	1 class req. 4 units
Management of a Natural Resource : Pick 2 courses from 1 of the following 3 groups				6-8 units
		Animal Resources		2 classes req.
Select 2	ESP 123 (4) III PLS 135 (3) I WFC 110 (3) III WFC 111 (3) I WFC 120 (3) I WFC 122 (4) III WFC 151 (4) I WFC 154 (4) III	Intro. To Field & Lab Meth. In Eco. Eco. & Comm. Struct. Of Grassland & Sav. Herb. Biology and Cons. of Wild Mammals Biology and Cons. of Wild Birds Biology and Cons. of Fishes Population Dynamics and Estimation Wildlife Ecology Conservation Biology	(Prereq: 100 or equiv.; Stat 102 or equiv.) (Prereq: BIS 1A or B and 2 or BIS 1C; and ESP 100 rec.) (Prereq: BIS 1A, B, C & course in ecology rec.) (Prereq: BIS 1A, B, C, and EVE 101) (Prereq: BIS 1B) (Prereq: MAT 16A-B, Stats. 13 or equiv. & upper div. Ecology) (Prereq: BIS 1A, B, C, or equiv. 110L or 111L rec.) (Prereq: EVE 101 or ESP 100 or equiv.)	<i>back in 08-09</i>
		Forest and Rangeland Resources (Ag Sys. & Env.)		2 classes req.
Required	PLS 131 (2) III PLS 134 (3) II	Ident. & Ecology of Grasses -class held during spring break Comparative Eco. of Major Rangeland Systems	(Prereq: BIS 1C or 2; PLB 102 and junior stand. rec.) (Prereq: 130 or the equiv; ESP 100 rec.)	
Select 2	ERS 131 (3) III ESP 151 (4) III ESP 151L (3) III ESP 155 (3) I ESP 155L (3) I HYD 103N (3) I HYD 141 (4) I SSC 118 (4) III	Env. & Resource Sci.- Air as a Resource Limnology Limnology Lab Wetland Eco. Wetland Eco. Lab Intro. To Fluid Mechanics Phy. Hydrology Soil Science- Soils in Land Use & Env.	(Prereq: CHE 10) (Prereq: BIS 1A & junior stand.) (Prereq: 151 & junior/senior stand.) (Prereq: ESP 100 or PLB 117 req., 110 or 151 rec.) (Prereq: 155- or taken concurrently) (Prereq: PHY 9B) (Prereq: PHY 9B, MAT 21B,) (Prereq: 100 or consent)	2 classes req.