

Climate Change and Air Quality Track

33-39 units

ATM 60 (4) I Atmospheric Physics and Dynamics (Prereq. MAT 16A and PHY 7A)

Select 3		9-11 units
ATM 115 (3) III	Hydroclimatology	(Prereq. ATM 60)
ATM 116 (3) III	Climate Change	(Prereq. ATM 60)
ATM 133 (4) II	Biometeorology	(Prereq. 1 Biology course and MAT 16B or consent)
ATM 160 (4) II	Intro. to Atmospheric Chem.	(Prereq. CHE 2B)
ERS 131 (3) III	Air as a Resource	(Prereq. CHE 10)
GEL 108 (3) III	Earth History-Paleoclimates	(Prereq. GEL 1 or ESP 116N. CHE 2A, or consent)

Select 2		6-9 units
ERS 100 (4) I	Prin. Of Hydrological Sci.	(Prereq. CHE 2B, MAT 16B, PHY 7A)
ERS 121 (3) I	Water & Society	(Prereq. PHY 10 or GEL 1)
ESP 116N (3) II	Oceanography	(Prereq. GEL 1 or 2 or 16 or 50)
HYD 143 (3) II	Hydrological Processes in Ecosystems	(Prereq. HYD 141 or ERS 100)
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.)

Select 1		3-4 units
ERS 144 (4) I	Trees and Forests	(Prereq. BIS 1C or 2C)
ESP 124 (3) SS/Bodega	Marine and Coastal Field Ecology	(Prereq. Upper-div., Intro. Biology, Residence at Bodega)
ESP 150C (4) SS	Biological Oceanography	(Prereq. BIS 1 or 2A and general ecology or consent)
ESP 151 (4) III	Limnology	(Prereq. BIS 1A or 2A and Junior stand.)
ESP 155 (3) I	Wetland Ecology	(Prereq. ESP 100 or PLB 117 req., 110 or 151 rec.)
EVE 115 (4) I	Marine Ecology	(Prereq. ESP 100 or EVE 101 or BIS 2B or consent)
PLS 130 (3) III	Rangeland: Eco., Cons. & Restor.	(Prereq. BIS 1C or 2C, intro. ecology, Jr. standing rec.) offered every other year

Select 1		4 units
EVE 147 (4) I	Biogeography	(Prereq. BIS 1A or 2A and BIS 1B or 2B) offered every other year
EVE 149 (4) I	Evol. of Ecological Sys.	(Prereq: 101 or ESP 100 or the equiv. & EVE 100 or the equiv.) offered every other year

Select 2		7-8 units
ARE 147 (3) II	Resource and Env. Policy Analysis	(Prereq. ECN 1A, open to non-majors only)
ESP 167 (4)	Energy Policy	(Prereq. ESP 160 or POL 101, 107, or 109) offered every other year
ESP 171 (4) III	Urban & Regional Planning	(Prereq. ESP 1, a course in Soc. Science and one in Env. Sci.)
ESP 179 (4) II	Environ. Impact Rptg.	(Prereq. Upper div., & BIS 1A or 2A plus one of these ESP 1, 10, 110) *required if not taken in "core."
ESP 163 (4) I	Energy & Env. Aspects of Transportation	(Prereq. ECN 1A and ECI 162 sugg.) offered every other year

Ecology, Biodiversity and Conservation Track**37-45 units**

EVE 100 (4) Intro. to Evolution (Prereq. BIS 1 or 2 Series, BIS 101, MAT 16 series, STA 13 or 100)

Select 1 3-5 units

ATM 60 (4) I Atmospheric Physics and Dynamics (Prereq. MAT 16A and PHY 7A)
 ATM 116 (3) Climate Change (Prereq. ATM 60)
 ATM 133 (4) II Biometeorology (Prereq. 1 Biology course and MAT 16B or consent)
 ERS 121 (3) I Water & Society (Prereq. PHY 10 or GEL 1)
 ERS 131 (3) III Air as a Resource (Prereq. CHE 10)
 ESP 152 (3) SS/Bodega Coastal Oceanography (Prereq. Physics, Calc, Exposure to Phy. & Chem. Ocean. and Resid. at Bodega)
 GEL 134 (3) II Environ. Geo. & Land Use Planning (Prereq. GEL 50 or 1 or consent)
 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)

Select 1 4 units

ESP 170 (4) III Conservation Biology (Prereq. ESP 1, ECN 1A, ECN 100 or ARE 100A rec.) offered every other year
 ESP 171 (4) III Urban & Regional Planning (Prereq. ESP 1, a course in Soc. Science and one in Env. Sci.)
 ESP 172 (4) I Public Lands Mgmt. (Prereq. ECN 1A)
 ESP 179 (4) II Environ. Impact Rptg. (Prereq. Upper div., & BIS 1A plus one of these ESP 1, 10, 110)
 *required if not taken in "core."

Select 1 4 units

ESP 127 (4) II Plant Conservation Biology (Prereq. ESP 100 or equiv.)
 WFC 154 (4) I Conservation Biology (Prereq. ESP 100 or EVE 101 or equiv.)

Select 1 3-4 units

ESP 123 (4) III Intro.to Field & Lab Meth. (Prereq. 100 or equiv. and STA 102 or equiv) offered every other year
 ESP 124 (3) SS/Bodega Marine and Coastal Field Ecology (Prereq. Upper div., Intro. Biology, Residence at Bodega)
 WFC 100 (4) III Field Meth. In WFC (Prereq. EVE 101 or ESP 100 and consent)

Select 1 4 units

ESP 121 (4) II Population Eco. (Prereq. BIS 1B & C, Math 16A-B) offered every other year
 WFC 122 (4) III Population Dynamics and Estimation (Prereq. MAT 16A-B, Stats. 13 or equiv. & Upper div. Ecology)

Select 1 4 units

EVE 104 (4) II Community Ecology (Prereq. EVE 101 or ESP 100)
 or another ecosystem course with adviser's approval

Select 1 3-4 units

EVE 147 (4) I Biogeography (Prereq. BIS 1A or 2A and BIS 1B or 2B)
 PLS 162 (3) II Urban Ecology (Prereq. General or Plant Ecology)
 or another ecosystem course with adviser's approval

8-12 units**Field/Lab Requirements****Select 1 Lab course - Must take a lab associated to a course listed in either category below****Select 1 biome level class on wetlands, forests, or water**

ERS 144 (4) I Trees and Forests (Prereq. BIS 1C or 2C)
 ESP 124 (3) SS/Bodega Marine and Coastal Field Ecology (Prereq. Upper div., Intro. Biology, Residence at Bodega)
 ESP 150C (4) SS Biological Oceanography (Prereq. BIS 1 or 2A and general ecology or consent)
 ESP 151 & 151L (7) III Limnology & Limnology Lab (Prereq. BIS 1A or 2A, Jr. standing. Must be enrolled in lecture for lab.)
 ESP 155 & 155L (7) I Wetland & Wetland Lab (Prereq. ESP 100 or PLB 117. ESP 110 or 151 rec. Must be enrolled in lecture for lab.)
 EVE 115 (4) I Marine Ecology (Prereq. ESP 100 or EVE 101 or BIS 2B or consent)
 EVE 138 (5) I Ecology of Tropical Latitudes (Prereq. 1 course in BIS, ENT, WFC, or consent) offered every other year
 PLS 130 (3) II Rangeland: Eco., Cons. & Restor. (Prereq. BIS 1C or 2C, intro. ecology, Jr. standing rec.) offered every other year

Select 1 organismal biology course on birds, mammals, or plants

ENT 103 (3) III Insect Systematics (Prereq. Intro. course in zoology or entomology) offered every other year
 ENT 116 (3-5) III Biology of Aquatic Insects (Prereq. ENT 100 or consent)

EVE 112 & 112L (5) II Biology of Invertebrates & Lab	(Prereq. BIS 1B or BIS 2B & 2C). Must be enrolled in lecture for lab.)
EVE 114 (3) SS/Bodega Experimental Invertebrate Biology	(Prereq. Upper div., BIS series, EVE 112, EVE 101, EVE 100 rec.)
EVE 134 & 134F or L Herp. & Field Class or Lab	(Prereq. BIS series, EVE 100 rec. Must be enrolled in lec. for field class and lab.)
PLB 102 (5) III California Floristics	(Prereq. PLS 2, BIS series or equiv. courses in plant sciences.)
PLB 116 (5) II Plant Morphology and Evolution	(Prereq. Intro. plant biology, plant anatomy rec.)
WFC 110 & 110L Biology & Cons. Of Wild Mammals	(Prereq. BIS series, ESP 100. Must be enrolled in lecture for lab.)
WFC 111 & 111L Biology & Cons. Of Wild Birds	(Prereq. BIS series, ESP 100. Must be enrolled in lecture for lab.)
WFC 120 & 120L Biology & Cons. of Fishes	(Prereq. BIS 1B or 2B. Must be enrolled in lecture for lab.)

GIS and Remote Sensing

34-42 units**Select 3****11-12 units**

ABT 181N (4) II	Concepts & Methods in GIS	(Prereq. ABT 180 or LDA 50 or consent)
ERS 185 (4) I	Aerial Photo Interpretation & Remote Sensing	(No Prereqs.)
ERS 186 (3) III	Env. Remote Sensing	(Prereq. MAT 16B, PHY 7C, Upper div. standing)
HYD 182 4) III	Env. Analysis using GIS	(Prereq. ABT 180 or the equiv.) offered every other year

Select 2**6-8 units**

ARE 147 (3) II	Resource and Env. Policy Analysis	(Prereq. ECN 1A, open to non-majors only)
ESP 163 (4) I	Energy & Env. Aspects of Transportation	(Prereq. ECN 1A and ECI 162 sugg.) offered every other year
ESP 169 (3) III	Water Policy & Politics	(Prereq. ECN 1A or POL 1)
ESP 171 (4) III	Urban & Regional Planning	(Prereq. ESP 1, a course in Soc. Science and one in Env. Sci.)
ESP 172 (4) I	Public Lands Mgmt.	(Prereq. ECN 1A)
ESP 179 (4) II	Environ. Impact Rptg.	(Prereq. upper div., & BIS 1A or 2A plus one of these ESP 1, 10, 110)

*required if not taken in "core."

Select 2**8 units**

ESP 121 (4) II	Population Ecology	(Prereq: BIS 1B & C, Math 16A-B) offered every other year
PLS 121 (4) I	Systems Analysis in Ag & Resource Mgmt.	(Prereq. PLS 21 or equiv., MAT 16A)
STA 104 (4) II	Applied Stats. Methods: Non-Parametric Stats.	(Prereq. STA 13, 32, 102) offered every other year
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)
STA 130A (4) I	Mathematical Stats.: Brief Course	(Prereq. MAT 16B)
STA 130B (4) II	Mathematical Stats.: Brief Course	(Prereq. STA 130A)
STA 137 (4) III	Applied Time Series Analysis	(Prereq. STA 108 or equiv.)

Other applicable information technology courses from the engineering department including database management, digital library science, and network and web technologies may be substituted for spatial information with the approval of an advisor

Select 3 courses from the following options. Must cover both physical and biological areas: 9-14 units

Physical

ATM 110 (4) III	Weather Observation & Analysis	(Prereq. ATM 60)
ATM 116 (3) III	Climate Change	(Prereq. ATM 60)
ATM 133 (4) II	Biometeorology	(Prereq. 1 Biology course and MAT 16B or consent)
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 112 (3) I	Soil Ecology	(Prereq: BIS 1B, 1C, 100)
SSC 118 (4) III	Soil Science- Soils in Land Use & Env.	(Prereq: SSC 100 or consent)

Biomes

ESP 124 (3) SS/Bodega	Marine and Coastal Field Ecology	(Prereq. Upper-div., Intro. Biology, Residence at Bodega)
ESP 150C (4) SS	Biological Oceanography	(Prereq. BIS 1 or 2A and general ecology or consent)
ESP 151 (4) III	Limnology	(Prereq. BIS 1A or 2A and junior stand.)
ESP 152 (3) SS/Bodega	Coastal Oceanography	(Prereq. Upper div., Physics, Calc., ESP 150A rec., Residence at Bodega)
ESP 155 (3) I	Wetland Ecology	(Prereq. ESP 100 or PLB 117 req., 110 or 151 rec.)
GEL 136 (5) III	Ecogeomorphology	(Prereq. Upper div. in approved majors and consent)
PLS 101 (3) II	Ag & the Environment	(Prereq. PLS 2 or consent)
PLB 117 (4) I	Plant Ecology	(Prereq. BIS 1 or 2 series, and PLB 111 rec.)

Natural Resource Management Track

33-40 units

ARE 147 (3) II	Resource and Env. Policy Analysis	(Prereq. ECN 1A, open to non-majors only)
STA 103 (4) or equiv. upper-div. stats.	Applied Stats. for Business & Econ.	(Prereq. STA 13, 32, or 100 and Calculus)
ERS 185 (4) II	Aerial Photo Interpretation & Remote Sensing	(No Prereqs.)

Select 2 7-9 units

ESP 168A (5) I	Methods of Env. Policy Evaluation	(Prereq. STA 13, ECN 100 or ARE 100A, Calc., ESP 1, Upper div.)
ESP 169 (3) III	Water Policy & Politics	(Prereq. ECN 1A or POL 1)
ESP 171 (4) III	Urban & Regional Planning	(Prereq. ESP 1, a course in Soc. Science and one in Env. Sci.)
ESP 172 (4) I	Public Lands Mgmt.	(Prereq. ECN 1A)
ESP 179 (4) II	Environ. Impact Rptg.	(Prereq. Upper div., & BIS 1A or 2A plus one of these ESP 1, 10, 110)

*required if not taken in "core."

Select 1 3-4 units

ESP 161 (4) III	Environ. Law	(Prereq. Upper div., & one course in Env. Sci., POL 1 and UWP 1 rec.)
HYD 150 (3) II	Water Law	(Prereq. ERS 100 or 121 or consent)

Select 2 6-8 units

ENT 104 (3) II	Beh. Ecology of Insects	(Prereq. Intro. biology or zoology)
ERS 144 (4) I	Trees and Forests	(Prereq. BIS 1C or 2C)
ESP 151 (4) III	Limnology	(Prereq. BIS 1A or 2A and Junior stand.)
ESP 155 (3) I	Wetland Ecology	(Prereq. ESP 100 or PLB 117 req., 110 or 151 rec.)
EVE 115 (4) I	Marine Ecology	(Prereq. ESP 100 or EVE 101 or BIS 2B or consent)
PLB 117 (4) I	Plant Ecology	(Prereq. BIS 1 or 2 series, and PLB 111 rec.)
PLS 130 (3) III	Rangeland: Eco., Cons. & Resto	(Prereq. BIS 1C or 2C, intro. ecology, Jr. standing rec.) offered every other year
WFC 110 (3) III	Biology and Cons. of Wild Mammals	(Prereq. BIS 1 or 2 series, EVE 101 or ESP 100 or equiv.)
WFC 111 (3) I	Biology and Cons. of Wild Birds	(Prereq. BIS 1 or 2 series, EVE 101 or ESP 100 or equiv.)
WFC 120 (3) I	Biology and Cons. of Fishes	(Prereq. BIS 1B or 2B)

Select 2 6-8 units

ATM 116 (3)	Climate Change	(Prereq. ATM 60)
ERS 121 (3) I	Water & Society	(Prereq. PHY 10 or GEL 1)
ERS 131 (3) III	Air as a Resource	(Prereq. CHE 10)
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.)

Soils and Biogeochemistry Track**38-46 units**

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.)

Select 4 17-21 units

ERS 100 (4) I Prin. Of Hydrological Sci. (Prereq. CHE 2B, MAT 16B, PHY 7A)
 HYD 134 (6) III Aqueous Geochemistry (Prereq. CHE 2B)
 SSC 105 (5) SS Field Studies of Soils in California Ecosystems (Prereq: SSC 100 and 120 or equiv. rec.)
 SSC 107 (5) I Soil Physics (Prereq. SSC 100, ERS 100, MAT 16A or equiv.)
 SSC 109 (4) III Sustainable Nutrient Mgmt. (Prereq. SSC 100 or equiv.)
 SSC 111 (4) II Soil Microbiology (Prereq. CHE 2C and BIS 1 or 2C)
 SSC 112 (3) I Soil Ecology (Prereq: BIS 1B, 1C, 100)
 SSC 120 (5) III Soil Genesis, Morphology, and Classification (Prereq. SSC 100, GEL 50 rec.)

Select 2 7-8 units

ERS 121 (3) I Water & Society (Prereq. PHY 10 or GEL 1)
 ESP 171 (4) III Urban & Regional Planning (Prereq. ESP 1, a course in Soc. Science and one in Env. Sci.)
 ESP 172 (4) I Public Lands Mgmt. (Prereq. ECN 1A)
 ESP 179 (4) II Environ. Impact Rptg. (Prereq. upper div., & BIS 1A or 2A plus one of these ESP 1, 10, 110)
 *required if not taken in "core."

Select 1 3-4 units

ERS 185 (4) II Aerial Photo Interpretation & Remote Sensing (No Prereqs.)
 GEL 134 (3) II Environ. Geo. & Land Use Planning (Prereq. GEL 50 or 1 or consent)
 HYD 147 (3) SS Runoff, Erosion, & Water Qual. Mgmt. in Tahoe (Prereq. Physics, Calc., ECI 141 or 142 or ERS 100)
 LDA 150 (3) III GIS for Land Planners (Prereq. AMR 21-NOT OPEN TO STUD. WHO HAVE TAKEN ABT 180)
 SSC 118 (4) III Soil Science- Soils in Land Use & Env. (Prereq: SSC 100 or consent)

Select 2

ERS 144 (4) I Trees and Forests (Prereq. BIS 1C or 2C)
 ESP 116N (3) II Oceanography (Prereq. GEL 1 or 2 or 16 or 50)
 ESP 150A (4) I Physical & Chem. Oceanography (Prereq. ESP 116N, Physics, MAT 22C, CHE 2C)
 ESP 150C (4) SS Biological Oceanography (Prereq. BIS 1 or 2A and general ecology or consent)
 ESP 151 (4) III Limnology (Prereq. BIS 1A or 2A and junior stand.)
 ESP 155 (3) I Wetland Ecology (Prereq. ESP 100 or PLB 117 req., 110 or 151 rec.)
 PLB 117 (4) I Plant Ecology (Prereq. BIS 1 or 2 series, PLB 111 rec.)
 PLS 130 (3) II Rangeland: Eco., Cons. & Restor. (Prereq. BIS 1C or 2C, intro. ecology, Jr. standing rec.)
 offered every other year

Watershed Science Track**37-42 units**

HYD 10 (3) III	Water, Power, Society	(No Prereqs.)
ERS 100 (4) I	Prin. Of Hydrological Sci.	(Prereq. CHE 2B, MAT 16B, PHY 7A)
HYD 143 (3) III	Hydrological Processes in Ecosystems	(Prereq. HYD 141 or ERS 100)
GEL 35 (3) III	Rivers	(No Prereqs.)
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.)

Select 2 **6-8 units**

ESP 168A (5) I	Methods of Env. Policy Evaluation	(Prereq. STA 13, ECN 100 or ARE 100A, Calc., ESP 1, Upperclassmen)
ESP 169 (3) III	Water Policy & Politics	(Prereq. ECN 1A or POL 1)
HYD 150 (3) II	Water Law	(Prereq. ERS 100 or 121 or consent)
ESP 179 (4) II	Environ. Impact Rptg.	(Prereq. upper div., & BIS 1A or 2A plus one of these ESP 1, 10, 110)

*required if not taken in "core."

Select 1 **3-4 units**

ATM 115 (3) III	Hydroclimatology	(Prereq. ATM 60)
ATM 116 (3) III	Climate Change	(Prereq. ATM 60)
ATM 133 (4) II	Biometeorology	(Prereq. 1 Biological course, MAT 16B or consent)

Select 1 pair **7 units**

ESP 151 & 151L (7) III	Limnology & Limnology Lab	(Prereq. BIS 1A or 2A, Jr. standing. Must be enrolled in lecture for lab.)
ESP 155 & 155L (7) I	Wetland & Wetland Lab	(Prereq. ESP 100 or PLB 117. ESP 110 or 151 rec. Must be enrolled in lecture for lab.)

Select 1 **3-5 units**

ENT 116 (3-5) III	Biology of Aquatic Insects	(Prereq. ENT 100 or consent)
EVE 115 (4) I	Marine Ecology	(Prereq. ESP 100 or EVE 101 or BIS 2B or consent)
EVE 134 (3) III	Herpetology	(Preq. BIS 1 or 2 series, EVE 100 rec.) offered every other year
WFC 120 (3) I	Biology and Conservation of Fishes	(Prereq. BIS 1 or 2B)