

ANM Specialization Courses and Prerequisites

Areas of Specialization:

Aquatic Animals (16 units): Choose option 1 or 2

1. Bodega Bay Coursework, Spring or Summer (strongly recommended)____, ANS 148 (4) S ____ *For more information on Bodega Bay Marine Laboratories, visit: <http://bml.ucdavis.edu/>*
2. Take all of the following courses

Course	Prerequisites	Units	Qtr	Title
ANS 18	None	4	F	Introductory Aquaculture
EVE 115	EVE 101 or ESP 100 or BIS 2B or consent	4	W EOY Odd	Marine Ecology
ANS 112	ANS 1 or BIS 2B, (STA 100 or PLS 120 rec.)	3	S	Sustainable Animal Agriculture
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

Companion Animals (16 units):

Course	Prerequisites	Units	Qtr	Title
ANS 42	None	4	W	Introductory Companion Animal Biology
ANS 140	ANS 100 or NPB 101	4	F	Management of Laboratory Animals
ANS 142	ANS 42, BIS 101, ANS 100 or NPB 101, (ABI 102, ABI 103 rec)	4	F	Companion Animal Care and Management
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

Dairy (16 units):

Course	Prerequisites	Units	Qtr	Title
ANS 41	None	2	F	Domestic Animal Production
ANS 41L	ANS 41L (can be taken concurrently)	2	F, W	Domestic Animal Production Laboratory
ANS 120	ANS 2, Upper Division Standing	3	F	Principles of Meat Science
ANS 146	NUT 115, or consent (ANG 107 rec)	5	S	Dairy Cattle Production
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

Equine (15 units):

Course	Prerequisites	Units	Qtr	Title
ANS 15	None	3	W	Introductory Horse Husbandry
ANS 115	ANS 15, ANS 100 or NPB 101, BIS 101, Upper Division NUT	4	F	Advanced Horse Production
ANS 141	ANS 115, (ECN 1A, 1B rec)	4	S	Equine Enterprise Management
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

Livestock (15 units):

Course	Prerequisites	Units	Qtr	Title
ANS 41	None	2	F	Domestic Animal Production
ANS 41L	ANS 41 Conc Ok	2	F, W	Domestic Animal Production Laboratory
ANS 120	ANS 2, Upper Division Standing	3	W	Principles of Meat Science
ANS 120L	ANS 2, ANS 120 Conc Ok, Upper Division Standing	2	W	Principles of Meat Science Laboratory
ANS 143*	ANS 41, NUT 115, ANS 100 or NPB 101	4	F EOY Odd	Pig and Poultry Care and Management
ANS 144*	ANS 41, NUT 115, or consent (ANG 107 rec)	4	S	Beef Cattle and Sheep Production
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

*Choose course ANS 143 OR ANS 144

Poultry (16 units):

Course	Prerequisites	Units	Qtr	Title
AVS 13	None	3	F	Birds, Humans and the Environment
ANS 120	ANS 2, Upper Division Standing	3	W	Principles of Meat Science
ANS120L	ANS 120 Conc Ok	2	W	Principles of Meat Science Laboratory
ANS 143	ANS 41, NUT 115, ANS 100 or NPB 101	4	F EOY Odd	Pig and Poultry Care and Management
ANS 148	Upper division standing	4	S	Enterprise Analysis in Animal Industries

Individualized (14-16): Choose additional courses with approval of faculty and master advisor.

Course	Prerequisites	Units	Qtr	Title
ANS 148	Upper division standing	4	Spring	Enterprise Analysis in Animal Industries

F, W, S, Su: Fall, Winter, Spring, Summer

Conc. Ok: concurrent enrollment ok

Rec.: Recommended

Updated: 9/02/2021

Upper-Division Restricted Elective Options

At least 2 additional courses (**minimum 8 units**) selected with the approval of a Staff Advisor (recommended courses listed below, **if not selected to satisfy other requirements**)

ARE: Agriculture and Resource Economics

Course	Title	PreReqs	Units	Qtr
18	Business Law	Sophomore standing (45+ units)	4	F, S, Su
112	Fundamentals of Organization Management	UD Standing	4	F, W, S, Su
120	Agricultural Policy	ARE 100A	4	S
130	Agricultural Markets	ARE 106	4	F
136	Managerial Marketing	ARE 100A, STA 103	4	F, S, Su
138	International Commodity and Resource Markets	ARE 100B	4	W
142	Personal Finance	ECN 1B	3	F, S, Su
143	Investments	Consent of Instructor	4	F, Su
144	Real Estate Economics	ARE 100A	3	S
145	Farm and Rural Resources Appraisal	None	4	W
150	Agricultural Labor	ARE 100A	4	S
155	Operations Research and Management Science	ARE 100A, STA 103	4	F, W, S, Su
157	Analysis for Operations and Production Management	ARE 155	4	F, W
171A	Financial Management of the Firm	MGT 11A-B, ARE 106	4	F, W, Su
171B	Financial Management of the Firm	ARE 171A	4	W, S, Su
176	Environmental Economics	ARE 100B or ECN 100	4	W

ABI: Animal Biology

Course	Title	PreReqs	Units	Qtr
102	Animal Biochemistry and Metabolism	CHE 2A-2B, 8A-8B OR 118A-B	5	F, W
103	Animal Biochemistry and Metabolism	ABI 102 or BIS 102	5	W, S

ANG: Animal Genetics

Course	Title	PreReqs	Units	Qtr
105	Horse Genetics	ANS 15, BIS 101	3	W
107	Genetics and Animal Breeding	BIS 101 (Pass 1 Restricted to ANS+ANM)	5	F, S
185	The Science of Captive Breeding and Reintroduction	BIS 2A-C	1	S

F, W, S, Su: Fall, Winter, Spring, Summer

Conc. Ok: concurrent enrollment ok

Rec.: Recommended

Updated: 9/02/2021

ANS: Animal Science

Course	Title	PreReqs	Units	Qtr
103	Animal Welfare	ANS 104 or NPB 102 or WFC 141	4	W
104	Principles and Applications of Domestic Animal Behavior	ANS 2 or BIS 2B	4	F, S
108	Equine Behavior and Welfare	UD Standing	3	W
115	Advanced Horse Production	ANS 15, BIS 101, any upper Division NUT, ANS 100 or NPB 101	4	F
120	Principles of Meat Science	ANS 2, Upper Division Standing	3	W
120L	Principles of Meat Science	ANS 120 Conc Ok	2	W
123	Animal Growth and Development	ABI 103 or BIS 103, ANS 100 or NPB 101	4	S
124	Lactation	ANS 100 or NPB 101, ABI 103 or BIS 103	4	W
125	Equine Exercise Physiology	ANS 15, ANS 100 or NBP 101	3	W, EOY Odd
126	Equine Nutrition	ANS 15, any upper Division NUT		W, EOY Even
127	Advanced Equine Reproduction	ANS 100 or NPB 101, ANS 115	3	S
128	Agricultural Applications of Linear Programming	ECS 15 or PLS 21, Restricted to UD Standing	4	W
129	Environmental Stewardship in Animal Production Systems	BIS 2A-2B, CHE 2A-2B, 8A-8B	3	W, EOY (odd)
140	Management of Laboratory Animals	ANS 100 or NPB 101	4	F
141	Equine Enterprise Management	ANS 115 (ECN 1A, 1B rec.)	4	S
142	Companion Animal Care and Management	ANS 42, BIS 101, NPB 101 or ANS 100, ABI 102 or BIS 102 (ABI 103 or BIS 103 rec.)	4	F
143	Pig and Poultry Care and Management	ANS 41, NUT 115, NPB 101 or ANS 100	4	F, EOY (odd)
144	Beef Cattle and Sheep Production	ANS 41, NUT 115 (ANG 107 rec.)	4	S
146	Dairy Cattle Production	NUT 115 (ANG 107 rec.)	5	S
150	Animal Health and Disease	ANS 2 or BIS 2B	4	W, S
170	Ethics of Animal Use	Composition/Speech course	4	F, S
192	Internship in Animal Science	Completion of 84 units	1-12	F, W, S
194	Research in Animal Science	ANG 111 or ANS 106 or 133 or 135 or 136 or 137 or 139	3	F, W, S
194H	Undergraduate Honors Thesis	ANS 100 or NPB 101, ABI 103 or BIS 103, min GPA of 3.2	4	F, W, S

AVS: Avian Science

Course	Title	PreReqs	Units	Qtr
100	Avian Biology	BIS 2A-2B, ANS 2 preferred	3	S
103	Avian Development and Genomics	BIS 2A-2B	3	F
115	Raptor Biology	BIS 2A or equivalent	3	Su

ECS: Engineering- Computer Science

Course	Title	PreReqs	Units	Qtr
124	Theory and Practice of Bioinformatics	ECS 10 or 30 or ENG 6; STA 12 or 13 or 32 or 100 or 131A or MAT 135A, BIS 2A or MCB 10	4	F

MGT: Management

Course	Title	PreReqs	Units	Qtr
100	Introduction to Financial Accounting	MGT 11A	3	F

NPB: Neurology, Physiology and Behavior

Course	Title	PreReqs	Units	Qtr
117	Avian Physiology	BIS 2A-2B; CHE 2B (NPB 101 rec.)	3	F
121	Physiology of Reproduction	ANS 100 or NPB 101	4	W
121L	Physiology of Reproduction Laboratory	NPB 121 Conc Ok	1	W
130	Endocrinology	ANS 100 or NPB 101 or NPB 110C	4	F

NUT: Nutrition

Course	Title	PreReqs	Units	Qtr
141	Comparative Animal Nutrition & Metabolism	ABI 103, NUT 115/140 or NUT 116A or NUT 116B	4	S
142	Companion Animal Nutrition	ABI 102, NUT 115/140, ANS 42 rec.	3	S

WFC: Wildlife, Fish and Conservation Biology

Course	Title	PreReqs	Units	Qtr
120	Biology and Conservation of Fishes	BIS 2A-2C (upper division ecology course rec.)	3	F
120L	Laboratory in Biology and Conservation of Fishes	WFC 120 Conc Ok	2	F
130	Physiological Ecology of Wildlife	EVE 101 or ESP 100	4	W