

Fall 2017 Neurobiology Option - Draft

1. Mathematics

Credits

Math	171	Calc with Algebra & Trig I	5
Math	221	Calculus&Analytic Geometry 1	5
Math	222	Calculus&Analytic Geometry 2	4
Statistics	301	Intro-Statistical Methods	3
Statistics	371	Intro Applied Stats-Life Sci	3

2. Chemistry

Chemistry	103	General Chemistry I	4
Chemistry	104	General Chemistry II	5
Chemistry	109	Advanced General Chemistry	5
Chemistry	343	Intro Organic Chemistry	3
Chemistry	344	Intro Organic Chemistry Lab	2
Chemistry	345	Intmed Organic Chemistry	3

3. Physics

Physics	103	General Physics	4
Physics	104	General Physics	4
Physics	201	General Physics	5
Physics	202	General Physics	5
Physics	207	General Physics	5
Physics	208	General Physics	5

4. Introductory Biology

Biology/Zoology	101	Animal Biology	3
Biology/Zoology	102	Animal Biology Laboratory	2
Biology/Botany	130	General Botany	5
Biology/Botany/Zoology	151	Introductory Biology	5
Biology/Botany/Zoology	152	Introductory Biology	5
Biocore	381	Evolution, Ecology, & Genetics	3
Biocore	382	Evolution, Ecology, & Genetics Lab	2
Biocore	485	Organismal Biology	2
Biocore	486*	Organismal Biology Lab	2

*Biocore policy amended, see advisor for details.

Foundational Courses (not required if completing Biocore)

Biochem	501	Introduction-Biochem	3
Genetics	466	Principles of Genetics	3
Microbiology	470	Micro Genetics & Mol Machines	3

5. Intermediate/Advanced Courses (required)

Psychology/Zoology	523	Neurobiology	3
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A. Cellular and Molecular Neurobiology

			Credits	Approved Lab
NTP/Phmcol-M/Physiol	610	Cellular & Molecular Neuroscience	4	
Psych	601 (formerly 411)	Epigenetics & the Brain	3	

Psych	601 (formerly 411)	Neuropharmacology	3	
Zoology	555	Laboratory in Developmental Biology	3	Y

B. Systems Neurobiology			Credits	Approved Lab
Anatomy/NTP/Physiol	630	Neuronal Mechanisms for Sensation & Memory in the Cerebral Cortex	3	
CS&D	503	Neural Mechanisms of Speech, Hearing & Language	3	
Ed Psych	326	Mind, Brain & Education	3	
Kines	721	Neural Basis for Movement	3	
Med Phys/NTP	671/675	Methods for Neuroimaging Research (Fall '16 & '17)	3	Y
NTP	675	Basic Sleep Mechanisms & Sleep Disorders	3	
Psych	414	Cognitive Psychology	3	

C. Ecology			Credits	Approved Lab
Agron/Botany/Soil Sci	370	Grassland Ecology	3	
Agron/Entom/Env Tox/F&W Ecol	632	Ecotoxicology: The Chemical Players	1	
Agron/Entom/Env Tox/F&W Ecol	633	Ecotoxicology: Impacts on Individuals	1	
Agron/Entom/Env Tox/F&W Ecol	634	Ecotoxicology: Impacts on Populations, Communities & Ecosystems	1	
Botany/F&W Ecol	455	Vegetation of Wisconsin	4	Y
Botany/F&W Ecol/Zoology	460	General Ecology	4	Y
Botany/Envir St/F&W Ecol/ Zoology	651	Conservation Biology	3	
Entom	450	Basic & Applied Insect Ecology	3	
Entom	451	Basic & Applied Insect Ecology Lab	1	N
Envir St/Zoology	315	Limnology: Conservation of Aquatic Resources	2	
F&W Ecol	550	Forest Ecology	3	
PI Path	300	Introduction to Plant Pathology	4	Y
Zoology	316	Laboratory for Limnology-Conservation of Aquatic Resources	3	Y

D. Evolution and Systematic Biology			credits	Approved Lab
Anthro/Botany/Zoology	410	Evolutionary Biology	3	
Anthro	411	The Evolution of the Genus, Homo	3	
Anthro	603	Seminar in Evolutionary Theory	3	
Botany	400	Plant Systematics	4	Y
Envir St/F&W Ecol/Zoology	360	Extinction of Species	3	
Microbio	450	Diversity, Ecology & Evolution of Microorganisms	2	
Psych	449	Animal Behavior	3	

E. Applied Biology, Agricultural and Natural Resources			credits	Approved Lab
Agronomy	302	Forage Management & Utilization	3	
Amer Ind/Anthro/Botany	474	Ethnobotany	3	
Biology/Genetics	522	Evolution Seminar Series	1	

Botany	403	Field Collections and Identification	1 to 4	N
Entom	351	Principles of Economic Entomology	3	
Envir St/Pop Hlth	502	Air Pollution & Human Health	3	
Food Sci/Microbio	324	Food Microbiology Laboratory	2	Y
Food Sci/Microbio	325	Food Microbiology	3	
Food Sci	532	Integrated Food Manufacturing	4	Y
F&W Ecol/Hort/Land Arc/PI Path	309	Diseases of Trees & Shrubs	3	N
F&W Ecol	318	Principles of Wildlife Ecology	3	
F&W Ecol	415	Tree Physiology	3	
F&W Ecol/Surg Sci	548	Diseases of Wildlife	3	
F&W Ecol	561	Wildlife Management Techniques	3	Y
Genetics/Hort	550	Molecular Approaches for Potential Crop Improvement	3	
Genetics/MD Genetics	677	Evolutionary Systems Biology	3	Y
Hort/Land Arc	263	Landscape Plants I	3	Y
Hort	370	World Vegetable Crops	3	N
Medicine/M&Envtox/Oncology/Path/ Phm Sci/Phmcol-M/Pop Hlth	625	Toxicology I	3	
MM&I	554	Emerging Infectious Diseases & Bioterrorism	2	
Nutr Sci	332	Human Nutritional Needs	3	
PI Path/Soil Sci	323	Soil Biology	2	
Soil Sci	321	Soils & Environmental Chemistry	3	

F. Other Lab Courses			credits	Approved Lab
Agronomy/Botany/Hort	339	Plant Biotechnology: Principles & Techniques I	4	Y
An Sci/Dy Sci	434	Reproductive Physiology	3	Y
Biocore	486*	Organismal Biology Laboratory	2	Y
Biochem	551	Biochemical Methods	4	Y
Botany	300	Plant Anatomy	4	Y
Botany	330	Algae	3	Y
Botany/F&W Ecol	402	Dendrology	2	Y
Dy Sci	305	Lactation Physiology	2	Y
Entom/Zoology	302	Introduction to Entomology	4	Y
Entom	331	Taxonomy of Mature Insects	4	Y
Kines	314	Physiology of Exercise	4	Y
Kines	338	Human Anatomy Lab	2	Y
Genetics	545	Genetics Laboratory	2	Y
Microbio	304	Biology of Microorganisms Laboratory	2	Y
Phm Sci	558	Laboratory Techniques in Pharmacology & Toxicology	2	Y
Physiol	335	Physiology	5	Y
Zoology	430	Comparative Anatomy of Vertebrates	5	Y

6. Seminar			credits
Zoology	500	Undergrad Neurobiology Seminar	1

CALS Capstone Courses			credits
Biocore	486*	Organismal Biology Laboratory	2
Botany/F&W Ecol	455	Vegetation of Wisconsin	4
Botany/F&W Ecol/Zoology	460	General Ecology	4
Zoology	316	Laboratory for Limnology-Conservation of Aquatic Resources	3
Zoology	555	Laboratory in Developmental Biology	3

*Students must complete Biocore 382 & 384 to count 486 towards lab or capstone requirement .

Draft-4/14/17