APPLIED AND AGRICULTURAL BIOLOGY - DOCTOR OF PHILOSOPHY

Program Requirements

Prefix	Title	Credits
EPWS 525	Advanced Scientific Writing	3
or EPWS 613	Introduction to Scientific Writing	
EPWS 613	Introduction to Scientific Writing	3
or EPWS 525	Advanced Scientific Writing	
EPWS 690	Doctoral Seminar	1
EPWS 6991	Doctoral Research (maximum of 6 count toward degree)	3
EPWS 7000	Doctoral Dissertation	1,15
BIOL 540	Science and Ethics	3
Students will take at least 12 credits from the following		12
EPWS 525	Advanced Scientific Writing	
or EPWS 613	Introduction to Scientific Writing	
EPWS 640	Tropical Insect Ecology	
EPWS 660	Ecology and Management of Invasive Plant Species	
EPWS 662	Parasitology	
EPWS 675	Urban Entomology	
EPWS 6996	Advanced Topics	
Students are required to take at least 6 credits from the following:		6
A ST 503	SAS Basics	
A ST 504	Statistical Software Applications	
A ST 505	Statistical Inference I	
A ST 506	Statistical Inference II	
A ST 509	Statistical Models for Complex Data Structures	
A ST 511	Statistical Methods for Data Analytics	
A ST 515	Statistical Analysis with R	
A ST 540	Predictive Analytics	
BIOL 562	Advanced Genomics Technology	
BIOL 566	Advanced Bioinformatics and NCBI Database	
CSCI 4140	Database Management Systems I	
PLEN 6425	Biometrical Genetics and Plant Breeding	
PLEN 6610	Introduction to Environmental and Ecological Modeling	
Courses, including special topics, can be substituted with advisor's approval. Additionally, new approved graduate level courses may be submitted with advisor's approval. Students can take a combination of the following to complete their degree:		
AGRO 516	Molecular Analysis of Complex Traits	
PLEN 6110	Arid Land Water Resources	
PLEN 6120	Instrumentation in Agronomy	
PLEN 6320	Advanced Soil Physics	
PLEN 6415	Breeding for Plant Disease Resistance	
PLEN 6420	Advanced Crop Breeding	
ANSC 602	Advanced Reproductive Physiology (fo)	
ANSC 621	Metabolic Functions and Dysfunctions (fe)	
BCHE 546	Biochemistry II	
BCHE 647	Physical Biochemistry	
BIOL 527	Symbiosis	
BIOL 536	Advanced Disease Vector Biology	
BIOL 568	Communities and Ecosystems	
BIOL 582	Advanced Plant Signalling and Development	
BIOL 587	Behavioral and Evolutionary Ecology	
GEOG 542	Programming for GIS	
GEOG 552	Landscape Ecology	
GEOG 573	Introduction to Remote Sensing	
GEOG 578	Fundamentals of GIS	
GEOG 585	Spatial Analysis and Modeling	
MOLB 520	Molecular Cell Biology	
MOLB 545	Molecular and Biochemical Genetics	
MOLB 542	Biochemistry I	
RGSC 509	Approaches to Rangeland Research	
RGSC 513	Advanced Rangeland Ecology	
RGSC 516	Arid Land Management	
RGSC 518	Watershed Methods and Management	
RGSC 520	Arid Land Plant Herbivore Interactions	
RGSC 575	Climate Studies, Water and Society	
Additional Coursework for students with only a B.S. degree:		
EPWS 511	Introduction to Weed Science (f)	4
EPWS 502	General Entomology	4
EPWS 551	Special Topics	1-4
EPWS 505	Advanced Integrated Pest Management	3
EPWS 551	Special Topics	1-4
Additional 3 credits from experimental design/statistical analyses.		3