Curriculum

In addition to a thesis generated by original research, the degree will require 36 credit hours total: 11 credit hours Thesis Research, 12 credit hours of required graduate courses (including 2 Graduate Seminar experiences), and another 13 credit hours of graduate-level electives (maximum of two 6000 level courses can be applied toward the degree). Maximum credit as "Research for Master's Thesis" applicable toward degree is eleven credit hours. The student's thesis committee may require additional remedial course work (these will not count toward the degree, nor will they be counted as hours needed to qualify for teaching assistantships).

The following graduate-level courses are to be offered over a 2-year schedule:

BIOL 6413	Advanced Evolutionary Analysis	3 credits
BIOL 7100	Professional Aspects in Biology*	3 credits
BIOL 7200	Integrative Biology*	3 credits
BIOL 7300	Research Methods across Biology*	4 credits
BIOL 7333	Ecological Physiology	4 credits
BIOL 7400	Multidisciplinary Approaches to Ecological Questions	3 credits
BIOL 7478	Molecular and Microbial Approaches to Pathogenesis	3 credits
BIOL 7500	Current Topics in Integrative Biology Seminar*	1 credit
BIOL 7634	Cell Signaling	3 credits
BIOL 7638	Computational Biology	3 credits
BIOL 7990	Research for Master's Thesis*	1 to 9 credits
*required courses		

The following courses are considered to be integrative in nature and are cross-listed (with additional requirements for graduate credit):

BIOL 4350/ BIOL 6350	Comparative Vertebrate Anatomy	4 credit hours
BIOL 4410/ BIOL 6410	Cell and Molecular Biology	3 credit hours
BIOL 4420/BIOL 6420	Plant Physiology	4 credit hours
BIOL 4422/ BIOL 6422	Plant Ecology	4 credit hours
BIOL 4460/ BIOL 6460	Medical Microbiology	4 credit hours
BIOL 4475/ BIOL 6475	Virology	3 credit hours
BIOL 4486/ BIOL 6486	Bioethics	3 credit hours
Special Topics in Biology*	BIOL 4490/ BIOL 6490	1-4 credit hours
BTEC 4100/6100	Molecular Genetics	3 credit hours
BTEC 4800/6800	Diagnostic Microbiology	3 credit hours
*Special Topics in Biology - topics recently taught under this course number are considered integrative and include Bioinformatics, Conservation Genetics, Restoration Ecology, and Cancer Biology		

The following graduate courses outside the department are considered to be appropriate electives for Integrative Biology:

STAT 8125	Design and Analysis of Human Studies (Epidemiology)	3 credit hours
CHEM 6510	Advanced Topics in Biochemistry	3 credit hours
CS 8550	Introduction to Bio-Informatics	3 credit hours
Any other graduate level course that is deemed appropriate by the student's thesis committee. The Department of Chemistry and Biochemistry is presently developing a Master's degree with an emphasis in Biological Chemistry.		