BIOLOGICAL SCIENCES (MS)

Code	Title	Units
REQUIRED COURSES		
BIO 5501	Molecular and Cellular Biology	4
or BIO 5502	Evolution, Ecology, and Organismal Biology	
Select from the following:		2-3
BIO 5504	Research Career and Proposal Development	
BIO 5583	Research and Professional Development for Regenerative Medicine Students	
Select from the following:		1-2
BIO 5591	Biology Colloquium	
BMED 5563	Biomedical Engineering Graduate Seminar	
Select from the following:		3
BIO 5509	Communicating Biology to Various Audiences	
BIO 5528	Principles of Stem Cell Biology	
BIO 5531	Advanced Behavioral Ecology	
BIO 5532	Advances in Organismal Physiology	
BIO 5590	Seminar in Biology	
Select from the following:		6
BIO 5598	Project [1]	
BIO 5599	Thesis	
Approved Electives		
Select from the following:		12-13
Select any 4000 level BIO courses, except for BIO 4400, BIO 4450, BIO 4461, BIO 4462, BIO 4463, BIO 4466		
BIO 5500	Individual Study	
BIO 5505	Scientific Writing and Communication	
BIO 5506	Data Management and Visualization in Biology	
BIO 5509	Communicating Biology to Various Audiences	
BIO 5511	Advanced Cell Culture Techniques	
BIO 5531	Advanced Behavioral Ecology	
BIO 5532	Advances in Organismal Physiology	
BIO 5570	Special Advanced Topics	
BIO 5571	Special Advanced Laboratory	
BIO 5574	Teaching Strategies for College Biology Laboratories	
BIO 5575	College Biology Teaching Practicum	
BIO 5585	Cooperative Education Experience	
BIO 5590	Seminar in Biology	
BIO 5591	Biology Colloquium	
BIO 5595	Cooperative Education Experience	
BMED 4480	Drug Discovery and Development	
BMED 5510	Principles of Tissue Engineering	
BMED 5515	Biomedical Imaging	
BMED 5560	Cell Transplantation and Biotherapeutics	
BMED 5561	Cell Transplantation and Biotherapeutics Laboratory	
STAT 5120	Intermediate Statistics for Graduate Students	
STAT 5430	Applied Regression Analysis for Graduate Students	
STAT 5440	Statistical Methods for Study Design and Analysis	
STAT 5550	Statistical Learning with R	
Total Units		**30**

[1] BIO 5598 is only an option for students in the Regenerative Medicine Specialization.

Specializations
Regenerative Medicine

Code	Title	Units
REQUIRED COURSES		
BIO 5501	Molecular and Cellular Biology	4
BIO 5509	Communicating Biology to Various Audiences	1
BIO 5511	Advanced Cell Culture Techniques	1
BIO 5528	Principles of Stem Cell Biology	2
BIO 5583	Research and Professional Development for Regenerative Medicine Students	2
BIO 5598	Project	6
BMED 5510	Principles of Tissue Engineering	3
BMED 5515	Biomedical Imaging	3
BMED 5563	Biomedical Engineering Graduate Seminar	1
STAT 5120	Intermediate Statistics for Graduate Students	3
Approved Electives		
Select from the following:		4
ASCI 4403	Applied Biotechnology in Animal Science	
BIO 4433	Neuroscience	
BIO 4451	Bioinformatics Applications	
BIO 4455	Developmental Biology	
BIO 4456	Immunology	
BIO 4457	Molecular Biology Laboratory	
BIO 5500	Individual Study	
BIO 5506	Data Management and Visualization in Biology	
BIO 5570	Special Advanced Topics	
BIO 5571	Special Advanced Laboratory	
BIO 5574	Teaching Strategies for College Biology Laboratories	
BIO 5575	College Biology Teaching Practicum	
BIO 5590	Seminar in Biology	
BIO 5591	Biology Colloquium	
BMED 4480	Drug Discovery and Development	
BMED 5560	Cell Transplantation and Biotherapeutics	
BMED 5561	Cell Transplantation and Biotherapeutics Laboratory	
STAT 5430	Applied Regression Analysis for Graduate Students	
STAT 5440	Statistical Methods for Study Design and Analysis	
STAT 5550	Statistical Learning with R	
Total Units		**30**