



**MISSISSIPPI STATE UNIVERSITY™**  
**COLLEGE OF AGRICULTURE**  
**AND LIFE SCIENCES**

*Department of Biochemistry, Molecular Biology, Entomology, and Plant Pathology*

**Biochemistry (120/121 Hours) - 11 Concentrations Available**

**Freshman Year**

Fall Semester (17 hours)			Spring Semester (15 hours)		
EN 1103	English Composition I	3	EN 1113	English Composition II	3
MA 1713	Calculus I	3	MA 1723	Calculus II	3
CH 1213/1	Chemistry I & Lab	4	CH 1223/1	Chemistry II & Lab	4
BIO 1134	Biology I	4	BIO 1144	Biology II	4
CO 1003	Fund. Of Public Speaking	3	<i>BCH 1001</i>	<i>Intro to Biochemistry</i>	1

**Sophomore Year**

Fall Semester (16 hours)			Spring Semester (17 hours)		
PH 1113	General Physics I	3	PH 1123	General Physics II	3
_____	Social Science+	3	BIO 3304	General Microbiology	3
CH 4513/1	Organic Chemistry I & Lab	4	CH 4523/1	Organic Chemistry II & Lab	4
_____	Humanities*	3	_____	Fine Arts*	3
_____	CONCENTRATION	3	_____	CONCENTRATION	3

**Junior Year**

Fall Semester (15 hours)			Spring Semester (15 hours)		
BCH 4603	General Biochemistry I	3	BCH 4613	General Biochemistry II	3
<i>BCH 4503</i>	<i>Scientific Comm. Skills</i>	3	_____	Social Science+	3
_____	CONCENTRATION	3	_____	CONCENTRATION	3
_____	CONCENTRATION	3	_____	CONCENTRATION	3
_____	Humanities*	3	_____	CONCENTRATION	3

**Senior Year**

Fall Semester (13 hours)			Spring Semester (14 hours)		
<i>BCH 4713</i>	<i>Molecular Biology</i>	3	BCH 3901	Senior Seminar	1
<i>BCH 4414</i>	<i>Protein Methods</i>	4	<i>BCH 4804</i>	<i>Molecular Bio Methods</i>	4
_____	CONCENTRATION	3	<i>BCH 4623</i>	<i>Biochem of Specialized Tiss</i>	3
_____	CONCENTRATION	2-3	_____	CONCENTRATION	3
			_____	CONCENTRATION	2-3

*Courses printed in italic are taught only in the Fall or Spring semester, as listed.*

Students are required to earn a 'C' or better in.

\*Choose from General Education core  
 Differs by concentration+

CONCENTRATION Courses: See Listings on next pages

**Pre-Medicine - 120 hours**

6 hours Social Sciences\*  
 BIO 2103 Cell Biology  
 or BIO 4414 Cellular Physiology  
 BIO 3004 Human Anatomy  
 or BIO 3014 Human Physiology  
 or VS 3014 Anatomy & Physiology  
 or BIO 4514 Animal Physiology  
 BIO 3103 Genetics I  
 or BIO 4133 Human Genetics  
 PH 1133 General Physics III  
 or PH 2233 Physics III  
 PHI 1123 Intro to Ethics  
 or PHI 3323 Medical Ethics  
 6 hours Technical Electives  
 8-9 hours General or Free Electives

**Pre-Optometry - 120 hours**

PSY 1013 General Psychology  
 3 hour Social Sciences\*  
 BIO 2103 Cell Biology  
 or BIO 4414 Cellular Physiology  
 BIO 3014 Human Physiology  
 or BIO 4514 Animal Physiology  
 ST 2113 Intro to Statistics  
 PHI 1123 Intro to Ethics  
 or PHI 3323 Medical Ethics  
 PH 1133 General Physics III  
 6 hours Science Electives  
 8-9 hours General or Free Electives

**Pre-Dental - 120 hours**

PSY 1013 General Psychology  
 3 hour Social Sciences\*  
 BIO 2103 Cell Biology  
 or BIO 4414 Cellular Physiology  
 BIO 3014 Human Physiology  
 or BIO 4514 Animal Physiology  
 ST 2113 Intro to Statistics  
 PHI 1123 Intro to Ethics  
 or PHI 3323 Medical Ethics  
 PH 1133 General Physics III  
 6 hours Science Electives  
 or PH 2233 Physics III  
 6 hours Science Electives  
 8-9 hours General or Free Electives

**Pre-Veterinary Medicine - 120 hours**

6 hours Social Sciences\*  
 BIO 3103 Genetics I  
 or BIO 4133 Human Genetics  
 or VS 3014 Anatomy & Physiology  
 or BIO 4514 Animal Physiology  
 BIO 2103 Cell Biology  
 or BIO 4414 Cellular Physiology  
 12 hours Science or Business Tech Electives  
 8-9 hours General or Free Electives

**Pre-Pharmacy - 120 hours**

PSY 1013 General Psychology  
 or SO 1003 Intro to Sociology  
 EC 2113 Prin of Macroeconomics  
 EC 2123 Prin of Microeconomics  
 ST 2113 Intro to Statistics  
 BIO 3103 Genetics I  
 or BIO 4113 Evolution  
 BIO 4405 Pathogenic Microbiology  
 BIO 4413 Immunology  
 BIO 4514 Animal Physiology  
 PHI 3323 Medical Ethics  
 PH 1133 General Physics III  
 4 hours General or Free Electives

**Pre-MBA - 120 hours**

ACC 2013 Prin Financial Accountin  
 ACC 2023 Prin Managerial Accounting  
 EC 2113 Prin of Macroeconomics  
 EC 2123 Prin of Microeconomics  
 BQA 2113 Bus Stat Methods I  
 BQA 3123 Bus Stat Methods II  
 MGT 3114 Prin of Management & Prod  
 MKT 3013 Principles of Marketing  
 FIN 3123 Financial Management  
 3 hour Computer Elective  
 6 hours General or Free Electives

**Science - 120 hours**

6 hours Social Sciences\*  
BCH 4013 Prin of Biochemistry  
or BCH 4000 DIS in BCH  
BIO 3014 Human Physiology  
or VS 3014 Anatomy & Physiology  
or BIO 4514 Animal Physiology  
BIO 2103 Cell Biology  
or BIO 4414 Cellular Physiology  
12 hours Science/Business Tech Elect.  
8-9 hours General or Free Electives

**Bioinformatics - 121 hours**

6 hours Social Sciences\*  
CSE 1284 Intro to Computer Programming  
CSE 1384 Intermediate Comp Programming  
CSE 2383 Data Structures & Anal of Algorithms  
CSE 2813 Discrete Structures  
CSE 3813 Intro Formal Languages & Automata  
CSE 4613 Bio-computing  
CSE 4633 Artificial intelligence  
CSE 4623 Computatioal Biology  
CSE 4833 Intro to Analysis of Algorithms  
ST 3123 Intro Statistical Inference

**Forensic Sciences - 120 hours**

PSY 1013 General Psychology  
SO 1003 Intro to Sociology  
CH 2313 Analytical Chemistry I  
or ST 2113 Intro to Statistics  
or PSY 3104 Intro Psychological Statistics  
SO 3603 Criminology Theory  
or PSY 3213 Psychology of Abnormal Behav  
PSY 4373 Forensic Psychology  
or AN 4313 Human Osteology  
or CSE 4273 Intro to Computer Forensics  
or BIO 3103 Genetics I  
BIO 2103 Cell Biology  
or BIO 4414 Cellular Physiology  
BCH 2013 Intro to Forensic Science  
BCH 4333 Advanced Forensic Science  
SO 4513 Correctional Systems  
3-4 hours General or Free Electives

**Entomology - 120 hours**

6 hours Social Sciences\*  
EPP 4154 General Entomology  
EPP 4164 Insect Taxonomy  
EPP 4263 Priciples of Insect Pest Mgt  
EPP 4335 Anatomy & Physiology of Insects  
Choose 3 of the following:  
EPP 3124 Forest Pest Management  
EPP 3423 Ornamental & Turfgrass Insects  
EPP 4173 Medical & Veterinary Entomology  
EPP 4234 Field Crop Insects  
EPP 4244 Aquatic Entomology  
EPP 4543 Toxicology & Insecticide Chemistry  
CH 4523 Organic Chemistry II  
PH 1113 General Physics I  
PH 1123 General Physics II  
General or Free Electives

**Plant Pathology - 120 hours**

6 hours Social Sciences\*  
EPP 3124 Forest Pest Management  
EPP 4113 Principles of Plant Pathology  
EPP 4152 Taxon-Fungi Imperfecti  
EPP 4163 Plant Disease Mgt  
EPP 4214 Diseases of Crops  
EPP 4523 Turfgrass Diseases  
BIO 2103 Cell Biology  
or PSS 1313 Plant Science  
PSS 4553 Plant Growth & Dev  
or BIO 4214 General Plant Physiology  
5-6 hours General or Free Electives