

MISSISSIPPI STATE UNIVERSITYTM BIOMEDICAL ENGINEERING CURRICULUM

Name: _____
 Student ID #: _____
 Net ID: _____
 Advisor: _____

SEMESTER	1	CH 1213 Chemistry I	CH 1211 Invst in Chem I	BIO 1134 ^L Biology I	MA 1713 Calculus I	EN 1103 English Comp I	^F ABE 1912 Comp Problem Solv in BS Engr	16
SEMESTER	2	CH 1223 Chemistry II	CH 1221 Invst in Chem II		MA 1723 Calculus II	PH 2213 Physics I	EN 1113 English Comp II	15
SEMESTER	3	[*] Engineering OR [‡] Math/Physics Elective (3h)	[†] Biological Sci Elective (3h)	EM 2413 Engr Mech I	MA 2733 Calculus III	PH 2223 ^L Physics II	MA 3123 OR IE 4613	18
SEMESTER	4			EM 2433 Engr Mech II	MA 2743 Calculus IV	[*] Engineering/Tech Elective (3h)	^S ABE 4803 Biosy Simulation	15
SEMESTER	5	[*] Humanities Elective (3h)		EM 3213 Mech of Materials	MA 3253 Diff Equations	^F ABE 3413 ^L Bio Instrum I	[*] Engineering/Tech Elective (3hr)	16
SEMESTER	6		^{**} ABE Elective (3h)	^{**} Engineering Elective (3h)	ABE 3303 Trans in Biol Env	^S ABE 4423 ^L Bio Instrum II	^S ABE 3813 ^L Biophy Prop of Mat	18
SEMESTER	7			^F [*] ABE Elective (3h)	^{**} Engineering Elective (3h)	^{**} Soc / Beh Sci Elective (3h)	^F ABE 4323 Phys Systems in Biomed Engr	15
SEMESTER	8			EM 3313 Fluid Mechanics	[*] Fine Arts Elective (3h)	^{**} Humanities Elective (3h)	[*] Engineering/Tech Elective (3h)	15

L - Lab Included
 F - Fall
 S - Spring

[†] Biological Science Electives listed on back
^{*} Engineering Electives listed on back
[‡] Math/Physics Electives listed on back
^{**} Must be on University core curriculum

TOTAL **128**

Biological Science Electives:

BIO 2103 Cell Biology	BIO 4433 Principles of Virology
BIO 3004 Human Anatomy	BIO 4503 Vertebrate Histology
BIO 3014 Human Physiology	BIO 4504 Comparative Vertebrate Embryology
BIO 3103 Genetics I	BIO 4514 Animal Physiology
BIO 3443 Biology of Cancer	ADS 4613 Physiology of Reproduction
BIO 3504 Comparative Anatomy	BCH 2023 Molecular Mechanisms of Human Diseases
BIO 3524 Biology of Vertebrates	BCH 4113 Essentials of Molecular Genetics
BIO 4113 Evolution	BCH 4443 Introduction to Human Health
BIO 4133 Human Genetics	CVM 2443 Essentials of Biotechnology
BIO 4143 Population Genetics	CVM 4193 Medical Pharmacology
BIO 4405 Pathogenic Microbiology	
BIO 4413 Immunology	

Engineering/Technical Electives:

ABE 4911 Engineering Seminar	IE 3121 Industrial Ergonomics Laboratory
ASE 3213 Mechanics of Deformable Structures	EM 3413 Vibrations
BIO 3304 General Microbiology	EM 4123 Introduction to Finite Elements
BCH 4013 Principles of Biochemistry	EM 4133 Composite Materials
CH 2503 Elementary Organic Chemistry	EM 4143 Engineering Design Optimization
CH 2501 Elementary Organic Chemistry – Lab	EM 4213 Advanced Mechanics of Materials
CH 4331 Practical Mass Spectrometry	IE 3123 Industrial Ergonomics,
CH 4341 Practical Materials Characterization	E 3913 Engineering Economy
CH 4461 Practical Optical Spectroscopy	IE 4113 Human Factors Engineering
yCH 4513 Organic Chemistry I	IE 4553 Engineering Law & Ethics
CH 4511 Organic Chemistry Lab I	IE 4623 Engineering Statistics II
CH 4523 Organic Chemistry II	IE 4683 Machine Learning with IE Applications
CH 4521 Organic Chemistry Lab II	IE 4733 Linear Programming
CHE 3413 Engineering Materials	IE 4743 Engineering Design Optimization
CHE 4143 Advanced Poly/Composite Materials	IE 4753 Systems Engineering & Analysis
CSE 1233 Computer Programming – C	EG 1143 Graphic Communication
CSE 1273 Computer Programming – Java	ME 3113 Engineering Analysis
CSE 4613 Bio-Computing	ME 3163 Introduction to Design with Finite Element Analysis
CSE 4623 Computational Biology	ME 3403 Materials for Mechanical Engineering Design
CSE 4683 Machine Learning and Soft Comp	ME 3423 Mechanics of Machinery
ECE 3213 Solid State Electronics	ME 3513 Thermodynamics I
ECE 3413 Introduction to Electronic Circuits	ME 3613 System Dynamics
ECE 3283 Electronics	ME 4113 Material Selection in Design
ECE 3423 Circuits I	ME 4123 Failure of Engineering Materials
ECE 3421 Circuits I Lab	ME 4233 Fundamentals of Finite Element Analysis
ECE 3424 Intermediate Electronic Circuits	ME 4643 Introduction to Vibration/Controls
ECE 3443 Signals and Systems	ME 4723 Labview
ECE 3714 Digital Devices	ME 4833 Intermediate Fluid Mechanics
ECE 4273 Microelectronics Device Design	SBP 3133 Mechanics of Biomaterials
ECE 4293 Nano-electronics	

Math/Physics Electives:

MA 3113 Introduction to Linear Algebra	PH 2233 Physics III
MA 3353 Differential Equations II	PH 3613 Modern Physics
MA 4143 Graph Theory	PH 4113 Elec Circuit Scien
MA 4373 Introduction to Partial Differential Equations	

ABE Electives:

ABE 3773 Current Topics in Biomedical Engineering	ABE 4613 Biomechanics
ABE 4443 Spectroscopic Sensing in Biosystems	ABE 4723 Tissue Engineering
ABE 4463 Introduction to Imaging in Biological Systems	
ABE 4523 Biomedical Materials	