BIOLOGICAL ENGINEERING CURRICULUM

Base Curriculum Flowchart ('12-'13)

MISSISSIPPI STATE UNIVERSITY

Name: _____
NetID: _____
Advisor: _____

SEMESTER								
1 F	CH 1213 Chemistry I	CH 1211 Invst in Chem I	BIO 1134 L Biology I	**Soc / Beh Elective	MA 1713 Calculus I	EN 1103 English Comp I	F ABE 1911 Engr in Life Sci	**18**
2 S	CH 1223 Chemistry II	CH 1221 Invst in Chem II	** Humanities Elective (3h)	MA 1723 Calculus II	PH 2213 Physics I	EN 1113 English Comp II	S ABE 1921 Intro to Engr Design	**17**
3 F		*Bio Sci Elective (3hr)	EM 2413 Engr Mech I	MA 2733 Calculus III	PH 2223 L Physics I I	CSE 1233 Comp Prog-C		**15**
4 S	CH 2503 Elem Organic	CH 2501 Elem Org Lab	EM 2433 Engr Mech II	MA 2743 Calculus IV	* Engr / Math Elective (3hr)	S ABE 4803 Biosy Simulation		**16**
5 F	BCH 4013 L Princ of Biochem		EM 3213 Mech of Materials	MA 3253 Diff Equations	F ABE 3413 L BioInstrum I		**Soc / Beh Elective I (3h)	**15**
6 S	BIO 3304 L Gen Microbio		EM 3313 Fluid Mechanics	S ABE 3303 Trans in Biol Env	S ABE 4423 L BioInstrum II	S ABE 3813 L Biophy Prop of Mat		**16**
7 F	F ABE 4813 Princ Engr Design	F ABE 4911 Engr Seminar	ABE Engineering Elective (3hr)		*Engineering Elective (3hr)	Bio Science Elective (3hr)	F ABE 4313/4323	**16**
8 S	S ABE 4833 BE Practices Lab	*Engineering / Math Elective (3h)	GE 3513 Tech Writing	**Humanities Elective (3h)	**Fine Arts Elective (3h)			**15**

Updated: April 5 2013

L - Lab Included
F - Fall
S - Spring

* Restricted elective course options are listed on the back
** University core cirriculum elective options are listed on a separate page

Total **128**

Biological Science Electives:

BIO 2103 - Cell Biology
BIO 3103 - Genetics with lab
BIO 3504 - Comparative Anatomy (with Lab)
BIO 4114 - Cellular Physiology (with Lab)
BIO 4413 - Immunology
BIO 4503 - Vertebrate Histology (with Lab)
BIO 4504 - Comparative Vertebrate Anatomy
BIO 4514 - Animal Physiology (with Lab)
BIO 3104 - Ecology
BIO 4204 - Plant Anatomy with lab
BIO 4213 - Plant Ecology

BIO 4324 - Soil Microbiology with lab
BIO 4404 - Environmental Microbiology with lab
BIO 4504 - Comp Vertebrate Embryology (with Lab)
BIO 4433 - Principles of Virology
ADS 4613 - Physiology of Reproduction
BCH 4113 - Essentials of Molecular Genetics
CVM 2443 - Essentials of Biotechnology
WF 3133 - Applied Aquatice Ecology with lab
WF 4372 - Water quality management
ADS 4213 - Livestock Nutrient Analysis
ADS 3213 - Perfomance Analysis of Meat Animals with lab
PSS 4103 - Forage and Pasture Crops with lab
FO 4452 - Remote Sensing Applications with lab (FO 4451)

Engineering / Math Electives:

(CE 3801)
CE 3803 - Environmental / Water Resources Engineering with lab

3811)
CE 3813 - Wnvironment/Water Resources Engineering with lab (CE

CE 4843 - Advanced Sanitary Analysis
CE 4893 - Hazardous Waste Management
CHE 4613 - Air Pollution Control Design
CHE 4623 - Hasardous Waste Incineration
CHE 4990 - Pollution Abatement and Control
ECE 3714 - Digital Devices and Logic Design with lab
EM 4123 - An Intro to Finite Element Method
EM 4133 - Mechanics of Composite Materials
EM 4213 - Advanced Mechanics of Materials
IE 4113 - Human Factor Engineering

IE 4533 - Project Management
IE 3913 - Engineering Economy IMA 3113 - Intro to Linear Algebra
MA 4373 - Intro to Partial Differential Equation
MA 4543 - Intro to Mathematical Statistics
ME 4403 - Machine Design
ME 4833 - Intermediate Fluid Mechanics
ME 4483 - Computer Aided Design
ME 3533 - Thermodynamics
ME 4653 - Fluid Power Control
ME 4743 - LabVIEW
ME 3133 - Modeling and Manufacturing
EG 1143 - Graphic Communication
CSE 4613 - Bio-Computing
CSE 4623 - Computational Biology
PH 2233 - Physics III

ABE Engineering Electives:

ABE 2873 - Land Surveying
ABE 3513 - GPS/GIS for Engr & Ag with lab
ABE 4513 - Dynamics of Aging
ABE 4533 - Rehabilitation Engineering
ABE 4613 - Biomechanics
ABE 4723 - Tissue Engineering
ABE 4624 - Exp Methods Material Research
IE 4733 - Linear Programming