MISSISSIPPI STATE UNIVERSITY

BIOLOGICAL ENGINEERING CURRICULUM

Flowchart (Effective 8/17/2015)

Name: _____

Student ID # _____

Net ID: _____

Advisor: _____

SEMESTER 1 (F)	CH 1213 Chemistry I	CH 1211 Invst in Chem I	BIO 1134 [L] Biology I	MA 1713 Calculus I	**Soc / Beh Sci Elective (3h)	EN 1103 English Comp I	[F] ABE 1911 Engr in Life Sci	**18**
SEMESTER 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 Des	**17**
SEMESTER 3 (F)	*Biological Sci Elective (3h)	EM 2413 Engr Mech I	MA 2733 Calculus III	PH 2223 [L] Physics II	MA 3123 Introduction to Statistical Infer			**15**
SEMESTER 4 (S)	CH 2503 Elem Organic	CH 2501 Elem Organic Lab	EM 2433 Engr Mech II	MA 2743 Calculus IV	*Engineering Elective (3h)	[S] ABE 4803 Biosy Simulation		**16**
SEMESTER 5 (F)	BCH 4013 Princ Biochem	**Soc / Beh Sci Elective (3h)	EM 3213 Mech of Materials	MA 3253 Diff Equations	[F] ABE 3413 [L] Bio Instrum I			**15**
SEMESTER 6 (S)	BIO 3304 [L] Gen Microbio			[S] ABE 3303 Trans in Biol Env	[S] ABE 4423 [L] Bio Instrum II	[S] ABE 3813 [L] Biophy Prop of Mat	GE 3513 Tech Writing	**16**
SEMESTER 7 (F)	ABE 4911 [F] Engr Seminar	ABE Engineering Elective	*Engineering Elective (3h)	*Biological Sci or Engr Elective (3h)	[F] ABE 4313 or ABE 4323	[F] ABE 4813 Princ Engr Design		**16**
SEMESTER 8 (S)	*Engineering Elective (3h)	EM 3313 Fluid Mechanics	**Fine Arts Elective (3h)	**Humanities Elective (3h)	[S] ABE 4833 Pract Engr Design			**15**

TOTAL **128**

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

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 - Comp Vertebrate Embryology (with Lab)
BIO 4514 - Animal Physiology (with Lab)
BIO 3104 - Ecology (with Lab)
BIO 4204 - Plant Anatomy (with Lab)
BIO 4213 - Plant Ecology (with Lab)
BIO 4324 - Soil Microbiology (with Lab)
BIO 4404 - Environmental Microbiology (with Lab)
BIO 4502 - Toxicology
WF 3133 - Applied Aquatic Ecology (with Lab)
WF 4372 - Water Quality Management
ADS 3213 - Performance Analysis of Meat Animals (with Lab)
ADS 4213 - Livestock Nutrient Analysis
PSS 4103 - Forage and Pasture Crops (with Lab)
FO 4452 - Remote Sensing Applications (with Lab - FO 4451)

Engineering Electives:

CE 3803 - Environ/Water Resources Engineering I (with Lab CE 3801)
CE 3813 - Environ/Water Resources Engineering II (with Lab CE 3811)
CE 4843 - Advanced Sanitary Analysis
CE 4893 - Hazardous Waste Management
CHE 4613 - Air Pollution Control Design
CHE 4623 - Hazardous 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 3913 - Engineering Economy I
IE 4173 - Occupational Safety Engineering
MA 3113 - Intro to Linear Algebra
MA 4373 - Intro to Partial Differential Equations
MA 4543 - Intro to Mathematical Statistics I
ME 4403 - Machine Design
ME 4833 - Intermediate Fluid Mechanics
ME 4483 - Computer-Aided Design
ME 4653 - Fluid Power Control

ABE Engineering Electives:

ABE 2873 - Land Surveying (with Lab)
ABE 3513 - GPS/GIS for Engr & Ag (with Lab)
ABE 4483 - Introduction to Remote Sensing Technologies
ABE 4513 - Dynamics of Aging
ABE 4523 - Biomedical Materials
ABE 4533 - Rehabilitation Engineering
ABE 4613 - Biomechanics
ABE 4723 - Tissue Engineering and Regeneration