BIOLOGICAL ENGINEERING CURRICULUM

Environmental Emphasis (Effective 8/17/2015)

Name: _____
MSUID # _____
Net ID: _____
Advisor: _____

SEMESTER 1 F	CH 1213 Chemistry I	CH 1211 Chem I Lab	**Soc/Beh Sci Elective (3hr)	BIO 1134 Biology I L	MA 1713 Calculus I	EN 1103 En Comp I	ABE 1911 Engr in Life Sci F	18
SEMESTER 2 S	CH 1223 Chemistry II	CH 1221 Chem II Lab	PH 2213 Physics I	Bio Science Elective (3hr)	MA 1723 Calculus II	EN 1113 En Comp II	ABE 1921 Intro to Engr Des S	17
SEMESTER 3 F	CH 2503 Elem Organic	CH 2501 Elem Org Lab	PH 2223 Physics II L	EM 2413 Engr Mech I	MA 2733 Calculus III	MA 3123 Intro to Stat Infer		16
SEMESTER 4 S		Eng/Bio Sci Elective (3hr)	Engr/Math Elective (3hr)	EM 2433 Engr Mech II	MA 2743 Calculus IV	ABE 4803 Biosys Simulation		15
SEMESTER 5 F	BCH 4013 Prin Bio Chem	ABE 3413 Bio Instrum I F L	**Soc/Beh Elective (3hr)	EM 3213 Mech of Materials	MA 3253 Diff Equations	ABE 4911 Engr Seminar		16
SEMESTER 6 S	BIO 3304 Gen Micro Bio L	ABE 4423 Bio Instrum II S L	ABE 3303 Trans in Biol Env	ABE 4263 Soil Water Engr		ABE 3813 Bio Phys Prop of Mat		16
SEMESTER 7 F		*ABE Elective (3 hrs)	ABE 4113 Bio Trmnt of NPS F	GE 3513 Tech Writing	*Engineering Elective (3h)	ABE 4813 Princ Engr Design F		15
SEMESTER 8 S	**Humanities Elective (3hr)	*Engr / Math Elective (3h)	**Fine Arts Elective (3h)	EM 3313 Fluid Dynamics		ABE 4833 Pract Engr Design S		15

Updated: October 23, 2017

L - Lab Included
F - Fall
S - Spring

* Restricted elective course options are listed on the back
** Must be on University core cirriculum

TOTAL **128**

Biological Science Electives:

BIO 2103 - Cell Biology
BIO 2503 - Environmental Quality
BIO 3504 - Comparative Anatomy (with Lab)
BIO 4114 - Cellular Physiology
BIO 4405 - Pothogenic Microbiologyt
BIO 4413 - Immunology
BIO 4433 - Pinciples of Virology
BIO 4473 - Medical Virology
BIO 4503 - Vertebrate Embryology
BIO 4504 - Comparative Vertebrate Embryology
BIO 4514 - Animal Physiology
ADS 4613 - Physiology of Reproduction
BCH 4113 - Essentials of Molecular Genetics
WF 4222 - Limnology and Lab
PSS 4333 - Soil Conservation
BIO 4502 - Toxicilogy

Biological Science Electives:

BIO 3103 - Genetics with Lab
BIO 3104- Ecology
BIO 4204 - Plant Anatomy and Lab
BIO 4213 - Planr Ecology
BIO 4324 - Soil Microbiology
BIO 4404 - Env Microbiology with Lab
CVM 2443- Essentials of Biotech
WF 3133 - Applied Aquatic Ecology with Lab
WF 4373 - Prin & Practice of Conservation in Ag Landscape
WF 4343 - Pond and Stream Mgt
ADS 4213 - Livestock Nutrient Analysis
ADS 3213 - Performance Analysis of Meat Animal with Lab
PSS 4103 - Forage and Pasture Crops with Lab
FO 4452 - Remote Sensing Applications wiht Lab (FO 4451)
GR 3113 - Conservation of Nat Resources
GR 4303 - Priniples of GIS
GR 4313 - Advanced GIS

Engineering /Math Electives:

CE 3803 - Environmental/Water Res Engineering with lab
CE 3813 - Environment/Water Res Engineering with lab
CE 4843 - Advanced Sanitary Analysis
CE 4893 - Hazardous Waste Mgt
CHE 4613 - Air Pollution COntrol Design
CHE 4623 - Hazardous Waste Incineration
CHE 4990 - Pollution Abatement and Control
EG 1143 - Graphic COmmunication
CSE 4613 - Bio-Computing
CSE 4623 - Computational Biology
IE 4113 - Human Factor Engineering
IE 4173 - Occupational Safety Enigneering
IE 4553 - Engineering Law and Ethics
IE 4733 - Linear Programming
PH 2233 - Physics III
ECE 3714 - Digital Devices and Logic Design

Engineering Electives:

MA 3113 - Intro to Linear Algebra
MA 3353 - DIfferential Equation II
MA 4313 - Numerical Analysis I
MA 4373 - Intro to Partial Differential Equation
EM 4123 - An Intro to Finite Element Method
EM 4133 - Mechanics of Composite Materials
EM 4213 - Advanced Mechanics of Materials
ME 3113 - Engineering ANalysis
ME 3533 - Termodynamics
ME 4123 - Failure of Engineering Materials
ME 4743 - LabCIEW
ME 4833 - Intermediate Fluid Mechanics
IE 4743 - Engineering Design Optimization
IE 4533 - Project Management
IE 3913 - Engineering Economics I
IE 4613 - Engineering Statistics I

ABE Electives:

ABE 4523 - Biomedical Materials
ABE 4613 - Biomechanics
ABE 4723 - Tissue Engineering
ABE 2873 - Land Surveying
ABE 3513 - GPS/GIS
ABE 4543 - Precistion Agriculture II
ABE 4624 - Exp Methods Material Research
ABE 4993 - Watershed Modeling
CE 2803 - Env Engineering Issues
CE 4513 - Engr Hydrology (Prereq CE 3813)
FO 4453 - Remote Sensing Applications
IE 4733 - Linear Programming