



BIOMEDICAL ENGINEERING CURRICULUM

(Effective 8/17/2015)

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

SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER	SEMESTER
1	F	CH 1213 Chemistry I	CH 1211 Chem I Lab	**Soc/Beh Sci Elective (3hr)	BIO 1134 Biology I	MA 1713 Calculus I	EN 1103 Enh Comp I	ABE 1911 Engr in Life Sci	18
2	S	CH 1223 Chemistry II	CH 1221 Chem II Lab	PH 2213 Physics I	*Humanities Elective (3hr)	MA 1723 Calculus II	EN 1113 En Comp II	ABE 1921 Intro to Engr Des	17
3	F	CH 2503 Elem Organic	CH 2501 Elem Org Lab	PH 2223 Physics II	EM 2413 Engr Mech I	MA 2733 Calculus III	MA 3123 Intro to Stat Infer		16
4	S		Bio Sci Elective (3hr)	*Engineering Elective (3hr)	EM 2433 Engr Mech II	MA 2743 Calculus IV	ABE 4803 Biosys Simulation		15
5	F	BCH 4013 Prin Bio Chem	ABE 4911 Engr Seminar	ABE 3413 Bio Instrum I	EM 3213 Mech of Materials	MA 3253 Diff Equations	**Soc / Beh Elective (3hr)		16
6	S	BIO 3304 Gen Micro Bio	ABE 3813 Biophy Prop of Mat	ABE 4423 Bio Instrum II	EM 3313 Fluid Dynamics		ABE 3303 Trans in Biol Env		16
7	F		*ABE Elective (3 hrs)	ABE 4323 Phys Sys in BME	GE 3513 Tech Writing	*Engineering Elective (3h)	ABE 4813 Princ Engr Design		15
8	S	**Humanities Elective (3hr)	*Engr / Math Elective (3h)	**Fine Arts Elective (3h)	ABE Elective (3hr)		ABE 4833 Pract Engr Design		15

L - Lab Included
 F - Fall
 S - Spring

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

Updated: October 23, 2017

TOTAL 128

Biological Science Electives:

BIO 2103 - Cell Biology
BIO 3504 - Comparative Anatomy (with Lab)
BIO 4114 - Cellular Physiology
BIO 4405 - Pathogenic Microbiology
BIO 4413 - Immunology
BIO 4433 - Principles 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

Engineering / Math /Physics Electives:

MA 3113 - Intro to Linear Algebra
MA 3353 Differential Equations II
MA 4373 - Intro to Partial Differential Equations
MA 4143 Graph Theory
MA 4373 - Intro to Partial Differential Equations
MA 4313 - Numerical Analysis I
PH 2233 Physics III

Engineering Electives:

ABE 4523 - Biomedical Materials
ABE 4613 - Biomechanics
ABE 4723 - Tissue Engineering
ABE 4624 - Experimental Methods in Material Research
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 - Thermodynamics
ME 4123 - Failure of Engineering Materials
ME 4743 - LabCIEW
ME 4833 - Intermediate Fluid Mechanics

Engineering Electives:

EG 1143 - Graphic Communication
CSE 4613 - Bio-Computing
CSE 4623 - Computational Biology
IE 4113 - Human Factor Engineering
IE 4173 - Occupational Safety Engineering
IE 4553 - Engineering Law and Ethics
IE 4733 - Linear Programming
IE 4743 - Engineering Design Optimization
ECE 3714 - Digital Devices and Logic Design