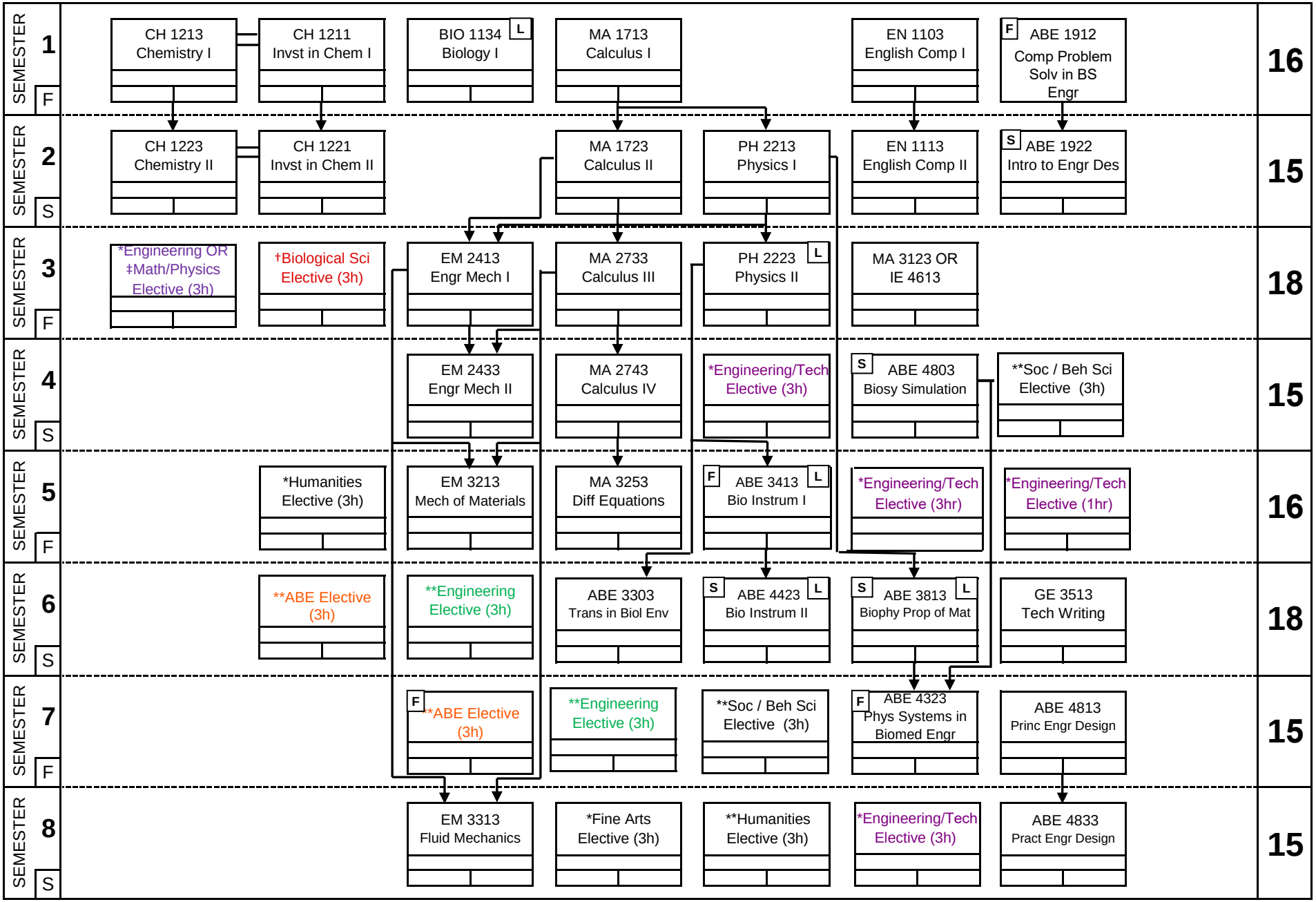
MISSISSIPPI STATE UNIVERSITY

BIOMEDICAL ENGINEERING CURRICULUM

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



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

Updated: 05/25/2023

Biological Science Electives:

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

Engineering/**Technical** Electives:

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

Math/Physics Electives:

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

ABE Electives:

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