

2020-2021 STEM-BioMedical Guide



FIRST YEAR - 1st Semester

Course	SGR/IGR	Credits
MATH 114 College Algebra	SGR5	3
ENGL 101 Composition I	SGR1	3
BME 101/101L Intro to Biomedical Eng		3
Major Course: _____		3-4
Semester Credits:		12-13

FIRST YEAR - 2nd Semester

Course	SGR/IGR	Credits
MATH 115 Pre-Calculus		5
PSYC 101 Intro to Psychology	SGR3	3
ENGL 201 Composition II	SGR1	3
Major Course: _____		3-4
Semester Credits:		14-15

SECOND YEAR - 1st Semester

Course	SGR/IGR	Credits
CHEM 112/112L General Chemistry II	SGR6	4
CMST 101 Fundamentals of Speech	SGR2	3
PHIL 220 Intro to Ethics	SGR4	3
CSC 170/170L Programming for Eng		3
MATH 123 Calculus I	SGR5	3
Semester Credits:		16

SECOND YEAR - 2nd Semester

Course	SGR/IGR	Credits
CHEM 114/114L General Chemistry II	SGR6	4
MATH 125 Calculus II		3
A Fine Arts Course	SGR4	3
BME 214 Statics		3
BME 232 Properties of Materials		3
Semester Credits:		16

THIRD YEAR - 1st Semester

Course	SGR/IGR	Credits
SOC 100 Intro to Sociology	SGR5	3
CHEM 326/326L Organic Chem I		4
BME 401 Intro to Biomaterials		3
MATH 225 Calculus III		4
Semester Credits:		14

THIRD YEAR - 2nd Semester

Course	SGR/IGR	Credits
CHEM 328/328L Organic Chem II		4
MICR 230/232L Basic Microbiology		4
ENGL 210 Intro to Literature	IGR	3
MATH 481 Probability & Statistics		3
Semester Credits:		10-12

FOURTH YEAR - 1st Semester

Course	SGR/IGR	Credits
PHYS 211/211L University Physics I	SGR6	4
MATH 321 Differential Equations		3
Major Course: _____		3-4
Semester Credits:		10-11

FOURTH YEAR - 2nd Semester

Course	SGR/IGR	Credits
Major Course: _____		3-4
Major Course: _____		3-4
Major Course: _____		3-4
Semester Credits:		10-12

NOTES

Major courses could be courses requirements related to majors, minors, electives, or certificates and can be taken at any time should the pre-requisites be completed. The suggested courses are related to this particular exploratory track. Students work with their advisors to ensure all courses are applicable to a student's long-term goal/major. Student Learning Outcomes:

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factor
- An ability to communicate effectively with a range of audiences
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.