

Name _____

Student ID _____

Date _____

2022-23 Biomedical Engineering Checklist

TRANSFORMATIONAL JOURNEY PROGRAM (TJP)

First Year Experience (3 credits)

___ FYS110 First Year Seminar

Faith and Ethics (9 credits)

___ THL105 Introduction to Theology

___ PHL130 Human Nature & Person

___ Second THL*

Scientific Problem Solving

Fulfilled by major requirements

Quantitative Problem Solving

Fulfilled by major requirements

Civics Problem Solving

Fulfilled by major requirements (EGR 317)

Communication (6 credits)

___ ENG112 Writing and Community

___ COM101 Public Speaking

Cultural and Global Awareness (6 credits)

___ World Language (determined by placement)

One of the following courses:

___ GLS101 Global Perspectives

___ HUM210 Meaning Through Culture

Health and Well-Being (6 credits)

___ HWB110 Holistic Health: Mind, Body, and Spirit

One of the following courses:

___ PSY101 General Psychology

___ PSY220 Human Growth and Development

___ SOC101 Introduction to Sociology

Broad Integrative Knowledge Outside Major**

a. Completion of a minor

b. Completion of a second major

c. Completion of a Pathway

*Please refer to catalog or MUHUB Progress tab for a complete list of courses that meet these requirements.

**Please refer to catalog or MUHUB Progress tab for a description of acceptable major/minor options.

General Math and Science Requirements (30 hours)

___ MAT 230 Calculus I 4

___ MAT 231 Calculus II 4

___ MAT 305 Calculus III 4

___ MAT 310 Linear Algebra 3

___ MAT 315 Differential Equations 3

___ CHE 140 General Chemistry I 3

___ CHE 141L General Chemistry I Lab 1

___ PHY 201 University Physics I 4

___ PHY 202 University Physics II 4

Engineering Core Requirements (27 hours)

___ EGR 101 Introduction to Engineering 3

___ EGR 151 Programming for Engineers 3

___ EGR 155 Intro Computer Aided Design 3

___ EGR 221 Engineering Mechanics: Statics 3

___ EGR 241 Linear Circuit Analysis 3

___ EGR 261 Engineering Thermodynamics 3

___ EGR 301 Global Engineering 3

___ EGR 317 Engineering Economics 3

___ EGR 490 Engineering Senior Design 3

Biomedical Engineering Requirements

(9 hours in Biology, 4 additional hours in Chemistry and 33 hours in BME/EGR courses totaling 46 hours)

___ BIO 204/204L Cell Biology 4

___ BIO 334 Human Medical Physiology 5

___ CHE 142 General Chemistry II 3

___ CHE 143L General Chemistry II Lab 1

___ EGR 326 Engineering Statistics 3

___ EGR 365 Fluid Mechanics 3

___ EGR 451 Control Systems 3

___ BME 226 Biomechanics 3

___ BME 330 Biomaterials 3

___ BME 352 Biosignals and Systems 3

___ BME 366 Biotransport 3

___ BME 451 Bioinstrumentation 3

___ BME 492 Senior Design II 3

___ BME Elective 3

___ BME Elective 3

Total Earned Major Hours__133__

2022-23 B.S. Biomedical Engineering Major Sample Four-Year Plan

Year One					
Fall Semester			Spring Semester		
Requirement Category	Course	Crd Hrs	Requirement Category	Course	Crd Hrs
Gen Math & Sci: Calculus I	MAT 230	4	Gen Math & Sci: Calculus II	MAT 231	4
Gen Math & Sci: Gen Chemistry I	CHE 140	3	Gen Math & Sci: Univ Physics I	PHY 201	4
Gen Math & Sci: Gen Chem I Lab	CHE 141L	1	CORE: Comp Aided Design	EGR 155	3
CORE: Intro Engineering	EGR 101	3	MAJ: Gen Chemistry II	CHE 142	3
CORE: Programming for Engrs	EGR 151	3	MAJ: Gen Chem II Lab	CHE 143L	1
TJP: First Year Seminar	FYS 110	3	TJP: Holistic Health	HWB 110	3
Semester Hours		17	Semester Hours		18
Cumulative Hours		17	Cumulative Hours		35
Year Two					
Fall Semester			Spring Semester		
Requirement Category	Course	Crd Hrs	Requirement Category	Course	Crd Hrs
Gen Math & Sci: Calculus III	MAT 305	4	Gen Math & Sci: Differential Eqns	MAT 315	3
Gen Math & Sci: Univ Physics II	PHY 202	4	TJP: Intro Theology	THL 105	3
CORE: Engr Mechanics: Statics	EGR 221	3	MAJ: Biomechanics	BME 226	3
CORE: Thermodynamics	EGR 261	3	CORE: Lin Circuit Analysis	EGR 241	3
TJP: Writing and Community	ENG 112	3	MAJ: Cell Biology	BIO 204	4
			MAJ: Cell Biology Lab	BIO 204L	0
Semester Hours		17	Semester Hours		16
Cumulative Hours		52	Cumulative Hours		68
Year Three					
Fall Semester			Spring Semester		
Requirement Category	Course	Crd Hrs	Requirement Category	Course	Crd Hrs
General Math & Sci: Linear Alg	MAT 310	3	TJP: Human Nature & Person	PHL 130	3
TJP: World Language	World Lang.	3	CORE: Global Engineering	EGR 301	3
TJP: Public Speaking	COM 101	3	MAJ: Engineering Stats	EGR 326	3
MAJ: Human Med Physiology	BIO 334	5	MAJ: Biosignals & Systems	BME 352	3
MAJ: Fluid Mechanics	EGR 365	3	MAJ: Biotransport	BME 366	3
			MAJ: Biomaterials	BME 330	3
Semester Hours		17	Semester Hours		18
Cumulative Hours		85	Cumulative Hours		103
Year Four					
Fall Semester			Spring Semester		
Requirement Category	Course	Crd Hrs	Requirement Category	Course	Crd Hrs
TJP: Health & Well-Being	PSY/SOC	3	TJP: Faith & Ethics #2	2 nd THL	3
CORE: Senior Design I	EGR 490	3	MAJ: BME Prog Elective	BME xxx	3
MAJ: Bioinstrumentation	BME 451	3	MAJ: BME Prog Elective	BME xxx	3
MAJ: Control Systems	EGR 451	3	MAJ: BME Senior Design II	BME 492	3
TJP: Cultural/Global	HUM/GLS	3	CORE: EGR Economics	EGR 317	3
Semester Hours		15	Semester Hours		15
Cumulative Hours		118	Cumulative Hours		133

*A minimum 2.0 cumulative GPA and a minimum 2.0 major GPA are required for graduation, so monitor your GPA closely. To meet degree requirements, some disciplines require higher grades in each course or a higher cumulative GPA

This plan is only a sample and will vary by student and course availability.