MARIAN UNIVERSITY
Indianapolis ®

Name_____
Student ID_____
Date_____

2025-26 Bachelor of Science in Biomedical Engineering Checklist

TRANSFORMATIONAL JOURNEY PROGRAM (TJP)
First Year Experience (3 credits)
____FYS 110 First Year Seminar

Faith and Ethics (9 credits)
____THL 105 Introduction to Theology
____PHL 130 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)
____ENG 112 Writing and Community
____COM 101 Public Speaking

Cultural and Global Awareness (6 credits)
____World Language (determined by placement)
One of the following courses:
____GLS 101 Global Perspectives
____HUM 210 Meaning Through Culture

Health and Well-Being (6 credits)
____HWB 110 Holistic Health: Mind, Body, and Spirit
One of the following courses:
____PSY 101 General Psychology
____PSY 220 Human Growth and Development
____SOC 101 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 (27 hours)

____MAT 230 Calculus I	4
____MAT 231 Calculus II	4
____MAT 305 Calculus III	4
____EGR 210 Engineering Computation and Modeling	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 (24 hours)

____EGR 101 Introduction to Engineering	3
____EGR 151 Programming for Engineers	3
____EGR 156 Intro Computer Aided Design	3
____EGR 221 Engineering Mechanics: Statics	3
____EGR 242 Linear Circuit Analysis	3
____EGR 301 Global Engineering	3
____EGR 317 Engineering Economics	3
____EGR 491 Engineering Senior Design	3

Biomedical Engineering Requirements
(8 hours in Biology, 4 additional hours in Chemistry, and 36 hours in BME/EGR courses, totaling 48 hours)

____BIO 212 Principles of Biology II	3
____BIO 213L Principles of Biology II Lab	1
____CHE 142 General Chemistry II	3
____CHE 143L General Chemistry II Lab	1
____EGR 326 Engineering Statistics	3
____EGR 451 Control Systems	3
____BME 203 Intro to Biomedical Engineering	3
____BME 223 Quantitative Physiology	3
____BME 226 Biomechanics	3
____BME 330 Biomaterials	3
____BME 352 Biosignals and Systems	3
____BME 366 Biotransport	4
____BME 451 Bioinstrumentation	3
____BME 492 Senior Design II	3
____Biomedical Engineering Elective	3
____Biomedical Engineering Elective	3
____Biomedical Engineering Elective	3

Total Earned Hours__132__

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2025-26 Bachelor of Science in Biomedical Engineering
Sample Four-Year Plan

Year One

Fall Semester			Spring Semester		
Requirement Category	**Course**	**Credit Hrs**	**Requirement Category**	**Course**	**Credit Hrs**
Gen Math & Sci: Calculus I	MAT 230	4	Gen Math & Sci: Calculus II	MAT 231	4
Gen Math & Sci: Gen Chem I	CHE 140	3	Gen Math & Sci: University Physics I	PHY 201	4
Gen Math & Sci: Gen Chem I Lab	CHE 141L	1	CORE: Intro Computer Aided Design	EGR 156	3
CORE: Intro Engineering	EGR 101	3	MAJ: Gen Chem II	CHE 142	3
CORE: Programming for Engineers	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**	**Credit Hrs**	**Requirement Category**	**Course**	**Credit Hrs**
Gen Math & Sci: Calculus III	MAT 305	4	Gen Math & Sci: Comp & Modeling	EGR 210	3
Gen Math & Sci: University Physics II	PHY 202	4	CORE: Lin Circuit Analysis	EGR 242	3
CORE: Engr Mechanics: Statics	EGR 221	3	MAJ: Principles of Biology II	BIO 212	3
MAJ: Intro to BME	BME 203	3	MAJ: Principles of Biology II Lab	BIO 213L	1
MAJ: Quantitative Physiology	BME 223	3	MAJ: Biomechanics	BME 226	3
			TJP: Writing and Community	ENG 112	3
Semester Hours		**17**	**Semester Hours**		**16**
Cumulative Hours		**52**	**Cumulative Hours**		**68**

Year Three

Fall Semester			Spring Semester		
Requirement Category	**Course**	**Credit Hrs**	**Requirement Category**	**Course**	**Credit Hrs**
General Math & Sci: Minor Elect		3	CORE: Engineering Economics	EGR 317	3
CORE: Global Engineering	EGR 301	3	MAJ: Engr Statistics	EGR 326	3
MAJ: Biomaterials	BME 330	3	MAJ: Biosignals & Systems	BME 352	3
MAJ: Biotransport	BME 366	4	TJP: Public Speaking	COM 101	3
TJP: World Language	World Lang.	3	TJP: Intro Theology	THL 105	3
			TJP: Human Nature & Person	PHL 130	3
Semester Hours		**16**	**Semester Hours**		**18**
Cumulative Hours		**84**	**Cumulative Hours**		**102**

Year Four

Fall Semester			Spring Semester		
Requirement Category	**Course**	**Credit Hrs**	**Requirement Category**	**Course**	**Credit Hrs**
CORE: Senior Design I	EGR 491	3	MAJ: Senior Design II	BME 492	3
MAJ: Bioinstrumentation	BME 451	3	MAJ: BME Program Elective II	BME XXX	3
MAJ: Control Systems	EGR 451	3	MAJ: BME Prog Elective III	BME XXX	3
MAJ: BME Prog Elective I	BME XXX	3	TJP: Cultural/Global	HUM/GLS	3
TJP: Health & Well-Being	PSY/SOC	3	TJP: Faith & Ethics #2	2nd THL	3
Semester Hours		**15**	**Semester Hours**		**15**
Cumulative Hours		**117**	**Cumulative Hours**		**132**

*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.