

Name \_\_\_\_\_

Student ID \_\_\_\_\_

Date \_\_\_\_\_

## 2022-23 Mechanical 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\*\*

- Completion of a minor
- Completion of a second major
- 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 141 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

### Mechanical Engineering Requirements (48 hours)

\_\_\_\_ EGR 222 Engineering Mechanics: Dynamics 3

\_\_\_\_ EGR 226 Mechanics of Materials 3

\_\_\_\_ EGR 230 Engineering Materials 3

\_\_\_\_ EGR 326 Engineering Statistics 3

\_\_\_\_ EGR 365 Fluid Mechanics 3

\_\_\_\_ EGR 451 Control Systems 3

\_\_\_\_ MEN 320 Dynamic Systems 3

\_\_\_\_ MEN 324 Mechanical Systems Modeling 3

\_\_\_\_ MEN 337 Design of Mechanisms 3

\_\_\_\_ MEN 362 Heat Transfer 3

\_\_\_\_ MEN 401 Machine Design and Manufacturing 3

\_\_\_\_ MEN 431 Experimental System Design 3

\_\_\_\_ MEN 492 Senior Design II 3

\_\_\_\_ Mechanical Engineering Elective 3

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**Total Earned Hours** 135

# MARIAN UNIVERSITY

Indianapolis®

## 2022-23 B.S. Mechanical Engineering Major 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
CORE-Intro Engineering	EGR 101	3	Gen Math & Sci: Univ Physics I	PHY 201	4
CORE-Egr Programming	EGR 151	3	Gen Math & Sci: Gen Chem I	CHE 140	3
TJP: First Year Seminar	FYS 110	3	Gen Math & Sci: Gen Chem I Lab	CHE 141L	1
TJP: Public Speaking	COM 101	3	CORE- Comp Aided Design	EGR 155	3
			TJP: Holistic Health	HWB 110	3
<b>Semester Hours</b>		<b>16</b>	<b>Semester Hours</b>		<b>18</b>
<b>Cumulative Hours</b>		<b>16</b>	<b>Cumulative Hours</b>		<b>34</b>
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: Differential Eqns	MAT 315	3
Gen Math & Sci: Univ Physics II'	PHY 202	4	CORE- Lin Circuit Analysis	EGR 241	3
CORE-Engr Mechanics: Statics	EGR 221	3	MAJ: Engr Mechanics: Dynamics	EGR 222	3
CORE-Thermodynamics	EGR 261	3	MAJ: Mechanics of Materials	EGR 226	3
TJP: Writing and Community	ENG 112	3	MAJ: Engineering Materials	EGR 230	3
			TJP: Human Nature & Person	PHL 130	3
<b>Semester Hours</b>		<b>17</b>	<b>Semester Hours</b>		<b>18</b>
<b>Cumulative Hours</b>		<b>51</b>	<b>Cumulative Hours</b>		<b>69</b>
Year Three					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hrs	Requirement Category	Course	Credit Hrs
Gen Math & Sci: Linear Algebra	MAT 310	3	TJP: Health & Well-Being	PSY/SOC	3
TJP: Intro Theology	THL 105	3	CORE-Global Engineering	EGR 301	3
TJP: World Language	World Lang.	3	MAJ: Engr Statistics	EGR 326	3
MAJ: Design of Mechanisms	MEN 337	3	MAJ: Dynamic Systems	MEN 320	3
MAJ: Fluid Mechanics	EGR 365	3	MAJ: Mech Sys Modeling	MEN 324	3
			MAJ: Heat Transfer	MEN 362	3
<b>Semester Hours</b>		<b>15</b>	<b>Semester Hours</b>		<b>18</b>
<b>Cumulative Hours</b>		<b>84</b>	<b>Cumulative Hours</b>		<b>102</b>
Year Four					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hrs	Requirement Category	Course	Credit Hrs
CORE: Senior Design I	EGR 490	3	TJP: Faith & Ethics #2	2 <sup>nd</sup> THL	3
MAJ: Machine Des & Manuf.	MEN401	3	MAJ: Senior Design II	MEN 492	3
MAJ: Exp. Systems Design	MEN 431	3	MAJ: MEN Program Elective	MEN XXX	3
MAJ: Control Systems	EGR 451	3	MAJ: MEN Program Elective	MEN XXX	3
MAJ: MEN Program Elective	MEN XXX	3	CORE: Engineering Economics	EGR 317	3
TJP: Cultural/Global	HUM/GLS	3			
<b>Semester Hours</b>		<b>18</b>	<b>Semester Hours</b>		<b>15</b>
<b>Cumulative Hours</b>		<b>120</b>	<b>Cumulative Hours</b>		<b>135</b>

\*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.