

Name \_\_\_\_\_

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

Date \_\_\_\_\_

## 2020-21 DDEP Biology/Biomedical Engineering Checklist

### GENERAL EDUCATION

#### I. Foundational Intellectual Skills (12-13 hours)

- \_\_\_ FYS110 First Year Seminar
- \_\_\_ ENG112 Writing and Community
- \_\_\_ COM101 Public Speaking
- \_\_\_ Mathematics (MAT230)

#### II. Knowledge Acquisition (19-20 hours)

- \_\_\_ Science with lab (BIO202)
- \_\_\_ HUM210 Meaning Through Culture
- \_\_\_ PHL130 Human Nature & Person
- \_\_\_ Foreign Language

#### One course from each group A and B:

##### Group A

- \_\_\_ EGR327 Engineering Economics
- \_\_\_ ECN200 Introductory Economics

##### Group B

- \_\_\_ PSY101 General Psychology
- \_\_\_ PSY220 Human Growth and Development
- \_\_\_ GST200 Introduction to Gender Studies
- \_\_\_ SOC101 Introduction to Sociology
- \_\_\_ SOC175 Introduction to Anthropology

#### III. Faith, Ethics, and Foundation (6 hours)

- \_\_\_ THL105 Introduction to Theology
- \_\_\_ Second Approved THL

#### IV. Greater Depth Cluster

Fulfilled by major requirements

#### Required Supporting Courses

- \_\_\_ TCM360 Communication in Engineering Practice
- \_\_\_ PHY201 Mechanics I
- \_\_\_ PHY202 Heat, Electricity, and Optics

**Total Earned General Education Hours** \_\_\_\_\_

### Biology MAJOR REQUIREMENTS

- \_\_\_ BIO 202 Evolution and Ecology 4
- \_\_\_ BIO 203 Genetics 4
- \_\_\_ BIO 204 Cell Biology 4
- \_\_\_ BIO 205 Biostatistics 4
- \_\_\_ BIO 291 Biology Careers 1
- \_\_\_ BIO 490 Biology Senior Seminar 1
- \_\_\_ BIO 491 Biology Capstone 1
- \_\_\_ CHE 151 General Chemistry I 4
- \_\_\_ CHE 152 General Chemistry II 4
- \_\_\_ CHE 305 Organic Chemistry I 4
- \_\_\_ CHE 306 Organic Chemistry II 4
- \_\_\_ PHY201 University Physics I 4
- \_\_\_ PHY202 University Physics II 4

Remaining Biology elective credit satisfied by BME courses

### BIOMEDICAL ENGINEERING MAJOR REQUIREMENTS

- \_\_\_ ENR195 Intro to the Engineering Profession 1
- \_\_\_ EGR196 Intro to Engineering 3
- \_\_\_ CST171 Procedural Programming 3
- \_\_\_ MAT 231 Calculus II 4
- \_\_\_ MAT 305 Calculus III 4
- \_\_\_ MAT 310 Linear Algebra 3
- \_\_\_ MAT 315 Differential Equations 3
- \_\_\_ BME 222/224 Biomeasurements 4
- \_\_\_ BME 241/243 Biomechanics 4
- \_\_\_ BME 302 Prof Develop and Design in BME 1
- \_\_\_ BME 322 Probability and Stats for BME 3
- \_\_\_ BME 331 Biosignals and Systems 3
- \_\_\_ BME 334 Biomedical Computing 3
- \_\_\_ BME 352/354 Cell and Tissue Behaviors and Properties and Lab 4
- \_\_\_ BME 381/383 Implantable Materials & Biological Responses 4
- \_\_\_ BME 388 Applied Biomechanics 3
- \_\_\_ BME 411 Quantitative Physiology 3
- \_\_\_ BME 442 Biofluid and Biosolid Mechanics 3
- \_\_\_ BME 461 Transport Processes in BME 3
- \_\_\_ BME 491 BME Design I 3
- \_\_\_ BME 492 BME Design II 3
- \_\_\_ Technical Elective 3
- \_\_\_ Technical Elective 3
- \_\_\_ TCM 218 Technical Report Writing 1
- \_\_\_ TCM 359 Tech Data Reporting and Presentation 1

**Total Earned Major Hours** \_\_\_\_\_

**2020-21 Dual-Degree Engineering Major  
 B.S. Biology & B.S. Biomedical Engineering  
 Sample Five-Year Plan**

Year One					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
First Year Seminar	FYS 110	3	Major	MAT 231	4
Major	MAT 230	4	Major	BIO203	4
Major	CHE151	4	Major	PHY201	4
Major	EGR196	3	Major	CHE 152	4
Major	EGR195	1			
General Education	COM101	3			
<b>Semester Hours</b>	<b>18</b>		<b>Semester Hours</b>	<b>16</b>	
<b>Cumulative Hours</b>	<b>18</b>		<b>Cumulative Hours</b>	<b>34</b>	
Year Two					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	MAT 305	4	Major	BIO205	4
Major	PHY202	4	Major	MAT315	3
Major	CHE305	4	Major	CST171	4
Major	BIO204	4	General Education	ENG112	3
Major	MAT211	2	Major	CHE306	4
<b>Semester Hours</b>	<b>18</b>		<b>Semester Hours</b>	<b>18</b>	
<b>Cumulative Hours</b>	<b>52</b>		<b>Cumulative Hours</b>	<b>70</b>	
Year Three					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	BIO 291	1	Major	BME 352/354	4
Major	BME 241/243	4	Major	BME 222/224	4
Major	CHE 325	4	General Education	THL105	3
Major	MAT310	3	General Education	PHL 130	3
Major	TCM 218	1			
Major	BIO 202	4			
<b>Semester Hours</b>	<b>18</b>		<b>Semester Hours</b>	<b>14</b>	
<b>Cumulative Hours</b>	<b>88</b>		<b>Cumulative Hours</b>	<b>102</b>	
Year Four					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	BME 381/383	4	Major	BME 322	3
Major	BME 331	3	Major	BME 302	2
Major	BIO 490	1	Major	BME 388	3
Major	TCM 359	1	Major	BME 402	1
Major	Tech Elective	3	Major	BME 442	3
Major	BME 334	3	General Education	For. Lang.	4
<b>Semester Hours</b>	<b>15</b>		<b>Semester Hours</b>	<b>16</b>	
<b>Cumulative Hours</b>	<b>117</b>		<b>Cumulative Hours</b>	<b>133</b>	
Year Five					
Fall Semester			Spring Semester		

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Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
<i>Major</i>	<i>BME 491</i>	3	<i>Major</i>	<i>BME 492</i>	3
Major	BIO 491	1	<i>Major</i>	<i>Technical Elective</i>	3
<i>Major</i>	<i>BME 461</i>	3	<i>Major</i>	<i>Technical Elective</i>	3
<i>Major</i>	<i>BME 411</i>	3	General Education	HUM210	3
General Education	GST/PSY/SOC	3	General Education	Second Theology	3
<b>Semester Hours</b>	<b>13</b>		<b>Semester Hours</b>	<b>15</b>	
<b>Cumulative Hours</b>	<b>146</b>		<b>Cumulative Hours</b>	<b>161</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.

Courses listed in italics indicate courses taken at IUPUI.