

Name _____

Student ID _____

Date _____

2020-21 DDEP Math/Energy 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 (CHE151)
- ___ HUM210 Humanities Survey Course
- ___ 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 _____

MATHEMATICS MAJOR REQUIREMENTS

___ MAT 230 Calculus I	4
___ MAT 231 Calculus II	4
___ MAT 250 Logic and Sets	3
___ MAT 305 Calculus III	4
___ MAT 310 Linear Algebra	3
___ MAT 315 Differential Equations	3
___ MAT 322 Statistical Inference & Data Analysis I	3
___ MAT 323 Statistical Inference & Data Analysis II	3
___ MAT 350 Numerical Methods	3
___ MAT 425 Mathematical Modeling	3
___ MAT 450 Real Analysis	3
___ MAT 490 Mathematics Seminar	3
___ CST 171 Procedural Programming	3
___ CST 270 Object Oriented Programming	3

ENERGY ENGINEERING MAJOR REQUIREMENTS

___ ENGR195 Intro to the Engineering Profession	1
___ ENGR196 Intro to Engineering	3
___ ECE204 Intro to Electrical & Electronic Circuits	4
___ ME200 Thermodynamics	3
___ ME272 Mechanics of Materials	3
___ ME314 Heat and Mass Transfer	4
___ EEN220 Fund. of Electro. Mat. + Energy Engr	4
___ EEN240 Basic Mechanics	4
___ EEN260 Sustainable Energy	3
___ EEN262 Engr. Design, Ethics & Entrepreneurship	3
___ EEN310 Fluid Mechanics	3
___ EEN330 Dynamic Systems Modeling	4
___ EEN345 Renewable Energy Systems and Design	3
___ EEN410 Clean Power Generation	3
___ EEN462 Capstone Design	3
___ EEN482 Control Systems Analysis and Design	4
___ ECE321 Electromechanical Motion Devices	3
___ ECE495 Fundamentals of Electrical Energy	3
___ Technical Elective	3
___ Energy Engineering Elective	3
___ Energy Engineering Elective	3
___ Energy Engineering Elective	3
___ Energy Engineering Elective	3

Total Earned Major Hours _____

MARIAN UNIVERSITY

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2020-21 Dual-Degree Engineering Major B.S. Mathematics with concentration in Applied Math & B.S. Energy 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	CST171	3
Major	CHE151	4	Major	PHY201	4
Major	ENGR196	3	General Education	ENG 112	3
Major	EGR195	1	General Education	THL105	3
General Education	COM101	3			
Semester Hours	18		Semester Hours	17	
Cumulative Hours	18		Cumulative Hours	35	
Year Two					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	MAT 305	4	Major	MAT250	3
Major	PHY202	4	Major	MAT315	3
Major	ME200	3	Major	ECE204	4
General Education	GST/PSY/SOC	3	General Education	EGR327	3
Major	CST270	3	General Education	PHL130	3
Major	MAT211	1			
Semester Hours	18		Semester Hours	16	
Cumulative Hours	53		Cumulative Hours	69	
Year Three					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	EEN220	4	Major	MAT323	3
Major	EEN240	4	Major	EEN310 (ME310)	3
Major	EEN260	3	Major	ME272	3
Major	MAT310	3	Major	MAT350	3
Major	MAT322	3	General Education	Second THL	3
Semester Hours	17		Semester Hours	15	
Cumulative Hours	86		Cumulative Hours	101	
Year Four					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	ME314	4	Major	EEN345	3
Major	EEN262	3	General Education	TCM360	2
Major	EEN330	4	Major	ECE321	3
Major	MAT490	3	Major	MAT450	3
Major	MAT425	3	Major	Technical Elective	3
			Major	Energy Elective	3
Semester Hours	17		Semester Hours	17	
Cumulative Hours	118		Cumulative Hours	135	

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Year Five					
Fall Semester			Spring Semester		
Requirement Category	Course	Credit Hours	Requirement Category	Course	Credit Hours
Major	EEN410	3	<i>Major</i>	<i>Energy Elective</i>	3
General Education	Foreign Language	4	<i>Major</i>	<i>Energy Elective</i>	3
<i>Major</i>	<i>EEN482</i>	4	<i>Major</i>	<i>Energy Elective</i>	3
General Education	HUM210	3	<i>Major</i>	<i>Technical Elective</i>	3
<i>Major</i>	<i>ECE495</i>	3	Major	EEN 462	3
Semester Hours	17		Semester Hours	15	
Cumulative Hours	152		Cumulative Hours	167	

*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.