

Engineering Dual Degree Requirements

Energy Engineering & Biology

University Core Curriculum

Common Core Requirements			Credits
FYS	101	First Year Seminar	3
FYS	102	First Year Seminar	3
GHS	201-209	Global and Historical Studies	3
GHS	201-209	Global and Historical Studies	3
General Core Requirements			Credits
TI	Text and Ideas		3
PCA	Perspectives in the Creative Arts		3
SW	The Social World (SW 220-EC) ¹		3
AR	<i>Analytical Reasoning (exempt)</i>		3
NW	<i>The Natural World (exempt)</i>		5
PWB	Physical Well-Being		1
Core Credits			22(30)

Additional Core Requirements

BCR	Butler Cultural Requirement	8 events
ICR	Indianapolis Community Requirement	1 course
SAC	Speaking Across the Curriculum	1 course
WAC	Writing Across the Curriculum	1 course

Liberal Arts and Science Requirements

Foreign Language (min 6 cr 200 level or above)	6-14
Spanish, French, German, Chinese, Latin	
Credits	28-36

Common Engineering

Mathematics			Credits
MA	106	Calculus & Analytical Geometry 1	4
MA	107	Calculus & Analytical Geometry 2	4
MA	208	Calculus & Analytical Geometry 3	4
MA	215	Linear Algebra	3
MA	334	Differential Equations	3
Science			Credits
CH	105	General Chemistry 1 ⁺	5
CH	106	General Chemistry 2 ⁺	5
PH	201	Introduction to Analytical Physics 1	5
PH	202	Introduction to Analytical Physics 2	5
Engineering			Credits
DD	190	Elementary Engineering Design	3
DD	297	MATLAB	1
CS	142	Intro to Computer Science & Prog	3
Other			Credits
COM	101	Rhetoric and the American Demo	3
TCM	250	Career Planning for Engineers	1
TCM	360	Comm in Engineering Practice (WAC/SAC)	2
ENGR	200	Engineering Internship	1
			Credits 52

Biology

BI	111	<i>Contemporary Issues in Biology</i> †	-
BI	210	Genetics	4
BI	220	Cellular and Molecular Biology	4
BI	230	Ecology and Evolutionary Biology	5
BI	299	<i>Biology Seminar</i> †	-
BI	480	Senior Biology Capstone (WAC)	3
Biology Electives			19

To acquire the remaining credit hours for the major, students must take biology electives at the 300 level or above; at least four of these electives must be lab courses. One of the electives taken must be an organism-based course. Students will be allowed to use a maximum of three hours of independent study credit, internship credit, research or honors thesis credit toward the 37-hour† minimum required for the biology major.

Credits 35

Energy Engineering

ECON	201	<i>Microeconomics</i> ¹	-
PH	351	Analog Electronics (WAC)	4
MA	359	Probability and Statistics	3
ME	200	Thermodynamics	3
ME	272	Mechanics of Materials	3
ME	314	Heat & Mass Transfer	3
ME	482	Control Systems	3
ECE	321	Electromechanical Motion Devices	3
ECE	495	Fundamentals of Electrical Energy	3
EEN	220	Fund of Electrochem Mat & Energy Engr	3
EEN	225	Energy Engineering Lab I	1
EEN	240	Basic Engineering Mechanics	4
EEN	250	Energy Engineering Lab II	1
EEN	260	Sustainable Energy	3
EEN	262	Engr Design, Ethics, & Entrepreneurship	2
EEN	310	Fluid Mechanics	3
EEN	325	Energy Engineering Lab III	1
EEN	330	Dynamic Sys Modeling & Measurements	3
EEN	345	Renewable Energy Systems	3
EEN	350	Energy Engineering Lab IV	1
EEN	425	Energy Engineering Lab V	1
EEN	445	Compressible Flow & Renewable KE	3
EEN	462	Capstone Design	3
EEN Electives			12
Tech Elective			2
			Credits 71

186 - 194 Total Credits

¹ used as equivalents for degree requirements

† also required for Biology major

‡ EDDP students are exempt from BI 111 and 299 with credits fulfilled from engineering courses