Engineering Dual Degree Requirements

Mechanical Engineering & Biochemistry

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	*Analytical Reasoning (exempt)*	*3*
NW	*The Natural World (exempt)*	*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	Credits
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*	-
CH	*106*	*General Chemistry 2*	-
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 Comptuer 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	42

Chemistry			Credits
CH	105	General Chemistry 1[†]	5
CH	106	General Chemistry 2[†]	5
CH	321	Analytical Chemistry I	5
CH	351	Organic Chemistry 1	5
CH	352	Organic Chemistry 2	5
CH	360	Modern Issues in Biochemistry	1
CH	361	Biochemistry I	4
CH	363	Biochemistry Laboratory I	2
CH	462	Biochemistry IIA: Central Metabolism	4
Biology			
BI	210	Genetics – Fundamentals	4
BI	220	Cellular & Molecular Biology: Fundamenta	4
Biology and/or Chemistry Electives			6
BI	411	Principles of Physiology	
BI	432	Plant Physiology	
BI	433	Advanced Cell Biology	
BI	435	Molecular Genetics	
BI	436	Genomics, Bioinformatics, Gene Evolution	
BI	438	Microbiology	
BI	460	Cell and Molecular Neurobiology	
CH	332	Inorganic Chemistry	
CH	422	Analytical Chemistry II	
CH	424	Instrumental Analysis Laboratory	
CH	431	Advanced Inorganic Chemistry	
CH	432	Synthesis and Characterization	
CH	463	Biochemistry Laboratory II	
CH	471	Physical Chemistry I (Quantum Mechanics)	
CH	472	Physical Chemistry II (Thermo & Kinetics)	
		Credits	50

Mechanical Engineering			Credits
ECON	*201*	*Microeconomics*[1]	-
PH	351	Analog Electronics (WAC)	4
MA	359	Probability and Statistics	3
ME	200	Thermodynamics	3
ME	225	Mechanical Engineering Lab 1	1
ME	250	Mechanical Engineering Lab 2	1
ME	262	Engr Design, Ethics, & Entrepreneurship	2
ME	270	Basic Mechanics 1	3
ME	272	Mechanics of Materials	3
ME	274	Basic Mechanics 2	3
ME	310	Fluid Mechanics	3
ME	314	Heat & Mass Transfer	3
ME	325	Mechanical Engineering Lab 3	1
ME	330	Modeling & Analysis of Dynamic Systems	3
ME	340	Dynamic Systems & Measurements	2
ME	344	Intro to Engineering Materials	3
ME	350	Mechanical Engineering Lab 4	1
ME	372	Design of Mechanics	3
ME	425	Mechanical Engineering Lab 5	1
ME	462	Capstone Design	3
ME	482	Control Systems	3
ME	497	Design, Standards, & Contemp. Issues	1
Design Elective			3
ME	414	Thermal-Fluid Systems Design	
ME	453	Machine Design	
Tech Electives			9
		Credits	62

[1] used as equivalents for degree reqirements

[+] also required for Biochemistry major

[†] may take CH 107 Advanced General Chemistry for 6 cr

182 - 190 Total Credits