

Engineering Dual Degree Requirements

Electrical Engineering & Biochemistry

University Core Curriculum			Common Engineering				
Common Core Requirements			Mathematics				
FYS	101	First Year Seminar	3	MA	106	Calculus & Analytical Geometry 1 [†]	4
FYS	102	First Year Seminar	3	MA	107	Calculus & Analytical Geometry 2	4
GHS	201-209	Global and Historical Studies	3	MA	208	Calculus & Analytical Geometry 3	4
GHS	201-209	Global and Historical Studies	3	MA	215	Linear Algebra	3
				MA	334	Differential Equations	3
General Core Requirements			Science				
TI		Text and Ideas	3	CH	105	General Chemistry 1	-
PCA		Perspectives in the Creative Arts	3	CH	106	General Chemistry 2	-
SW		The Social World (SW 220-EC) ¹	3	PH	201	Introduction to Analytical Physics 1 [†]	5
AR		Analytical Reasoning (exempt)	3	PH	202	Introduction to Analytical Physics 2 [†]	5
NW		The Natural World (exempt)	5				
PWB		Physical Well-Being	1				
		Core Credits	22(30)	Engineering			Credits
Additional Core Requirements				DD	190	Elementary Engineering Design	3
BCR		Butler Cultural Requirement	8 events	DD	297	MATLAB	1
ICR		Indianapolis Community Requirement	1 course	CS	142	Intro to Computer Science & Prog	3
SAC		Speaking Across the Curriculum	1 course				
WAC		Writing Across the Curriculum	1 course	Other			Credits
Liberal Arts and Science Requirements			Credits	COM	101	Rhetoric and the American Demo	3
Foreign Language (min 6 cr 200 level or above)			6-14	TCM	250	Career Planning for Engineers	1
Spanish, French, German, Chinese, Latin				TCM	360	Comm in Engineering Practice (WAC/SAC)	2
		Credits	28-36	ENGR	200	Engineering Internship	1
							Credits 42
Chemistry			Credits	Electrical Engineering			Credits
CH	105	General Chemistry 1 [†]	5	ECON	201	Microeconomics ¹	-
CH	106	General Chemistry 2 [†]	5	PH	351	Analog Electronics (WAC)	4
CH	321	Analytical Chemistry I	5	ME	295	Mechanics and Heat	3
CH	351	Organic Chemistry I	5	ECE	202	Circuit Analysis II	3
CH	352	Organic Chemistry II	5	ECE	208	Electronic Devices & Design Lab	1
CH	360	Modern Issues in Biochemistry	1	ECE	210	Sophomore Seminar	1
CH	361	Biochemistry I	4	ECE	255	Intro to Electronics Analysis & Design	3
CH	363	Biochemistry Laboratory I	2	ECE	264	Advanced C Programming	2
CH	462	Biochemistry IIA: Central Metabolism	4	ECE	270	Digital Logic Design	4
Biology				ECE	301	Signals and Systems	3
BI	210	Genetics – Fundamentals	4	ECE	302	Probabilistic Methods	3
BI	220	Cellular & Molecular Biology: Fundamenta	4	ECE	311	Electric and Magnetic Fields	3
Biology and/or Chemistry Electives			6	ECE	362	Microprocessors Systems & Interface	4
BI	411	Principles of Physiology		ECE	382	Feedback Systems Analysis	3
BI	432	Plant Physiology		ECE	401	Engineering Ethics	1
BI	433	Advanced Cell Biology		ECE	440	Intro to Communication System Analysis	4
BI	435	Molecular Genetics		ECE	487	Senior Design I	1
BI	436	Genomics, Bioinformatics, Gene Evolution		ECE	488	Senior Design II	2
BI	438	Microbiology		EE	Electives		15
BI	460	Cell and Molecular Neurobiology					Credits 60
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				
180 - 188	Total Credits						

¹ used as equivalents for degree requirements

[†] also required for Biochemistry major

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