

Engineering Dual Degree Requirements

Electrical Engineering & Physics

University Core Curriculum				Common Engineering			
Common Core Requirements				Mathematics			
FYS	101	First Year Seminar	Credits 3	MA	106	Calculus & Analytical Geometry 1 ⁺	Credits 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		Credits 3	CH	105	General Chemistry 1	Credits 5
PCA	Perspectives in the Creative Arts		3	CH	106	General Chemistry 2	5
SW	The Social World (SW 220-EC) ³		3	PH	201	Introduction to Analytical Physics 1	-
AR	Analytical Reasoning (exempt)		3	PH	202	Introduction to Analytical Physics 2	-
NW	The Natural World (exempt)		5				
PWB	Physical Well-Being		1				
		Core Credits	22(30)	Engineering			
Additional Core Requirements				Other			
BCR	Butler Cultural Requirement		8 events	DD	190	Elementary Engineering Design	Credits 3
ICR	Indianapolis Community Requirement		1 course	DD	297	MATLAB	1
SAC	Speaking Across the Curriculum		1 course	CS	142	Intro to Computer Science & Prog	3
WAC	Writing Across the Curriculum		1 course				
Liberal Arts and Science Requirements				Engineering			
		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
Physics				Electrical Engineering			
PH	201	Introduction to Analytical Physics 1	Credits 5	ECON	201	Microeconomics ³	Credits -
PH	202	Introduction to Analytical Physics 2	5	PH	351	Analog Electronics* (WAC)	4
PH	301	Modern Physics	3	ME	295	Mechanics and Heat ¹	-
PH	303	Electromagnetic Waves and Optics	3	ECE	202	Circuit Analysis II	3
PH	311	Experimental Modern Physics	3	ECE	208	Electronic Devices & Design Lab	1
PH	321	Intermediate Classical Mechanics ¹	4	ECE	210	Sophomore Seminar	1
PH	325	Thermodynamics & Statistical Physics	4	ECE	255	Intro to Electronics Analysis & Design	3
PH	331	Electromagnetic Theory I (WAC) ²	-	ECE	264	Advanced C Programming	2
PH	421	Quantum Theory I	4	ECE	270	Digital Logic Design	4
PH	495	Senior Seminar	1	ECE	301	Signals and Systems	3
	Physics Elective (*credits used toward 4 cr req)		-	ECE	302	Probabilistic Methods	3
AS	301	Modern Astronomical Techniques		ECE	311	Electric and Magnetic Fields ²	3
AS	311	Astrophysics I		ECE	362	Microprocessors Systems & Interface	4
PH	315	Mathematical Methods for Physics		ECE	382	Feedback Systems Analysis	3
PH	351	Analog Electronics I		ECE	401	Engineering Ethics	1
PH	422	Quantum Theory II		ECE	440	Intro to Communication System Analysis	4
PH	427	General Relativity and Gravity		ECE	487	Senior Design I	1
PH	461	Computational Physics		ECE	488	Senior Design II	2
PH	480	Special Topics				EE Electives	15
		Credits	32				Credits 57

159 - 167 Total Credits

¹⁻³ used as equivalents for degree requirements

⁺ also required for Physics major