

Engineering Dual Degree Requirements

Energy Engineering & Mathematics

University Core Curriculum				Common Engineering			
Common Core Requirements				Mathematics			
FYS	101	First Year Seminar	Credits	MA	106	Calculus & Analytical Geometry 1	Credits
FYS	102	First Year Seminar	3	MA	107	Calculus & Analytical Geometry 2	-
GHS	201-209	Global and Historical Studies	3	MA	208	Calculus & Analytical Geometry 3	-
GHS	201-209	Global and Historical Studies	3	MA	215	Linear Algebra	-
General Core Requirements				Science			
TI	Text and Ideas		Credits	CH	105	General Chemistry 1	Credits
PCA	Perspectives in the Creative Arts		3	CH	106	General Chemistry 2	5
SW	The Social World (SW 220-EC) ¹		3	PH	201	Introduction to Analytical Physics 1	5
AR	<i>Analytical Reasoning (exempt)</i>		3	PH	202	Introduction to Analytical Physics 2	5
NW	<i>The Natural World (exempt)</i>		5	Engineering			
PWB	Physical Well-Being		1	DD	190	Elementary Engineering Design	Credits
			Core Credits	DD	297	MATLAB	3
			22(30)	CS	142	Intro to Computer Science & Prog ⁺	1
Additional Core Requirements				Other			
BCR	Butler Cultural Requirement		8 events	COM	101	Rhetoric and the American Demo	Credits
ICR	Indianapolis Community Requirement		1 course	TCM	250	Career Planning for Engineers	3
SAC	Speaking Across the Curriculum		1 course	TCM	360	Comm in Engineering Practice (WAC/SAC)	1
WAC	Writing Across the Curriculum		1 course	ENGR	200	Engineering Internship	2
Liberal Arts and Science Requirements							
Foreign Language (min 6 cr 200 level or above)			Credits				
Spanish, French, German, Chinese, Latin			6-14				
			Credits				
			28-36				
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Mathematics				Energy Engineering			
MA	106	Calculus & Analytic Geometry 1	Credits	ECON	201	Microeconomics ¹	Credits
MA	107	Calculus & Analytic Geometry 2	4	PH	351	Analog Electronics (WAC)	-
MA	208	Calculus & Analytic Geometry 3	4	MA	359	Probability and Statistics*	4
MA	108	First-Year Problem Solving	1	ME	200	Thermodynamics	3
MA	200	Basics of Advanced Mathematics	3	ME	272	Mechanics of Materials	3
MA	205	Discrete Mathematics	3	ME	314	Heat & Mass Transfer	3
MA	215	Linear Algebra	3	ME	482	Control Systems	3
MA	312	Algebra: Groups	3	ECE	321	Electromechanical Motion Devices	3
MA	326	Analysis: Theory of Calculus (WAC)	3	ECE	495	Fundamentals of Electrical Energy	3
MA	330	Complex Analysis	3	EEN	220	Fund of Electrochem Mat & Energy Engr	3
Restricted Elective (choose 1)			3	EEN	225	Energy Engineering Lab I	1
MA	313	Algebra: Rings and Fields	-	EEN	240	Basic Engineering Mechanics	4
MA	327	Analysis: Lebesgue Integral	-	EEN	250	Energy Engineering Lab II	1
<i>Math Electives (*credits used toward 9 cr req)</i>			-	EEN	260	Sustainable Energy	3
MA	301	<i>History of Mathematics</i>	-	EEN	262	Engr Design, Ethics, & Entrepreneurship	2
MA	305	<i>Graph Theory</i> [^]	-	EEN	310	Fluid Mechanics	3
MA	310-399	<i>See Course Catalog</i>	-	EEN	325	Energy Engineering Lab III	1
MA	473	<i>Topics in Mathematics</i>	-	EEN	330	Dynamic Sys Modeling & Measurements	3
			Credits	EEN	345	Renewable Energy Systems	3
			34	EEN	350	Energy Engineering Lab IV	1
170 - 178 Total Credits				EEN	425	Energy Engineering Lab V	1
				EEN	445	Compressible Flow & Renewable KE	3
				EEN	462	Capstone Design	3
				EEN Electives			12
				Tech Elective* ⁱ			2
				Credits			71

¹ used as equivalents for degree requirements

* also required for Mathematics major

[^] CS 252 accepted as equivalentⁱ Tech elective-ME 551 fulfills one 3cr Math elective