

Engineering Dual Degree Requirements

Mechanical Engineering & Physics

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

General Core Requirements			Credits
TI	Text and Ideas		3
PCA	Perspectives in the Creative Arts		3
SW	The Social World (SW 220-EC) ³		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

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

Science			Credits
CH	105	General Chemistry 1	5
CH	106	General Chemistry 2	5
PH	201	<i>Introduction to Analytical Physics 1</i>	-
PH	202	<i>Introduction to Analytical Physics 2</i>	-

Engineering

Engineering			Credits
DD	190	Elementary Engineering Design	3
DD	297	MATLAB	1
CS	142	Intro to Computer Science & Prog	3

Other

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

Physics

Physics			Credits
PH	201	Introduction to Analytical Physics 1	5
PH	202	Introduction to Analytical Physics 2	5
PH	301	Modern Physics	3
PH	303	Electromagnetic Waves and Optics	3
PH	311	Experimental Modern Physics	3
PH	321	<i>Intermediate Classical Mechanics</i> ¹	-
PH	325	<i>Thermodynamics & Statistical Physics</i> ²	-
PH	331	Electromagnetic Theory I (WAC)	4
PH	421	Quantum Theory I	4
PH	495	Senior Seminar	1
<i>Physics Elective (*credits used toward 4 cr req)</i>			-
AS	301	<i>Modern Astronomical Techniques</i>	
AS	311	<i>Astrophysics I</i>	
PH	315	<i>Mathematical Methods for Physics</i>	
PH	351	<i>Analog Electronics I</i>	
PH	422	<i>Quantum Theory II</i>	
PH	427	<i>General Relativity and Gravity</i>	
PH	461	<i>Computational Physics</i>	
PH	480	<i>Special Topics</i>	
Credits			28

Mechanical Engineering

Mechanical Engineering			Credits
ECON	201	<i>Microeconomics</i> ³	-
PH	351	Analog Electronics* (WAC)	4
MA	359	Probability and Statistics ²	3
ME	200	Thermodynamics ²	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 ¹	3
ME	272	Mechanics of Materials	3
ME	274	Basic Mechanics 2 ¹	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

160 - 168 Total Credits

¹⁻³ used as equivalents for degree requirements

⁺ also required for Physics major