Engineering Dual Degree Requirements

Mechanical Engineering & Astronomy and Astrophysics

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)[3]	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	5
CH	106	General Chemistry 2	5
PH	*201*	*Introduction to Analytical Physics 1*	-
PH	*202*	*Introduction to Analytical Physics 2*	-

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

Astronomy & Astrophysics			Credits
AS	102	Modern Astronomy	5
AS	301	Modern Astronomical Techniques	3
AS	311	Astrophysics I	3
AS	312	Astrophysics II	3
PH	201	Introduction to Analytical Physics 1	5
PH	201	Introduction to Analytical Physics 2	5
PH	301	Modern Physics	3
PH	303	Electromagnetic Waves and Optics	3
PH	*321*	*Intermediate Classical Mechanics*[1]	-
PH	331	Electromagnetic Theory I (WAC)	4
PH	495	Senior Seminar	1
		Credits	35

Recommended Courses

PH	311	Expermental Modern Physics	3
PH	*325*	*Thermodynamics & Statistical Physics*[2]	-
PH	421	Quantum Theory I	4
PH	461	Computational Physics	3

Mechanical Engineering			Credits
ECON	*201*	*Microeconomics*[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

167 - 175 Total Credits

[1-3] used as equivalents for degree reqirements

[+] also required for Astronomy and Astrophysics major