Engineering Dual Degree Requirements

Biomedical 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	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*	4
PH	421	Quantum Theory I	4
PH	461	Computational Physics	3

Biomedical Engineering			Credits
CH	351	Organic Chemistry 1	5
CH	352	Organic Chemistry 2	5
BI	210	Genetics	4
BI	220	Cellular and Molecular Biology	4
BI	433	Advanced Cell Biology	4
BME	222	Biomeasurements	4
BME	241	Biomechanics[1]	4
BME	322	Probability & Statistics for BME	3
BME	331	Biosignals and Systems	3
BME	334	Biomedical Computing	3
BME	352	Cell/Tissue Behavior and Properties	3
BME	354	Probs in Cell/Tissue Behavior & Prop	1
BME	381	Implantable Materials & Biological Resp	3
BME	383	Probs in Implant Materials & Bio Resp	1
BME	402	Senior Seminar in BME	1
BME	411	Quantitative Physiology	3
BME	442	Biofluid & Biosolid Mechanics	3
BME	461	Transport Processes in Biomedical Engr	3
BME	491	Biomedical Engineering Design I	3
BME	492	Biomedical Engineering Design II	3
BME Elective[i]			3
BME/Tech Elective[i]			3
BME/Sci/Tech Electives[i] (*counts toward 6 cr req)			6
		Credits	75

180 - 188 Total Credits

[1,2] used as equivalents for degree reqirements

[+] also required for Astronomy and Astrophysics major

[i] BME/Sci/Tech electives must be selected in consultation with an advisor to form an appropriate Depth Area