

## Engineering Dual Degree Requirements

### Biomedical Engineering & Environmental Studies

#### University Core Curriculum

<b>Common Core Requirements</b>			Credits
FYS	101	First Year Seminar	3
FYS	102	First Year Seminar	3
GHS	201-209	Global and Historical Studies	3
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<b>General Core Requirements</b>			Credits
TI		Text and Ideas	3
PCA		Perspectives in the Creative Arts	3
SW		<i>The Social World (exempt)</i>	3
AR		<i>Analytical Reasoning (exempt)</i>	3
NW		<i>The Natural World (exempt)</i>	5
PWB		Physical Well-Being	1
		Core Credits	19(30)
<b>Additional Core Requirements</b>			
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
<b>Liberal Arts and Science Requirements</b>			Credits
Foreign Language (min 6 cr 200 level or above)			6-14
Spanish, French, German, Chinese, Latin			
		Credits	25-33

#### Common Engineering

<b>Mathematics</b>			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
<b>Science</b>			Credits
CH	105	General Chemistry 1	5
CH	106	General Chemistry 2	5
PH	201	Introduction to Analytical Physics 1	5
PH	202	Introduction to Analytical Physics 2	5
<b>Engineering</b>			Credits
DD	190	Elementary Engineering Design	3
DD	297	MATLAB	1
CS	142	Intro to Computer Science & Prog	3
<b>Other</b>			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	52

#### Environmental Studies

ENV	200	Introduction to Environmental Studies	3
ST	200	Intro to Science & Technology Studies	3
ST	205	Science and Society Speaker Series	3
		This is a 1 credit course to be taken 3 times.	
ENV	330	Geographic Information Systems	4
		Select 1 of the following 3 courses:	3
ST	310	Social Studies of Science and Technology	
ST	320	Philosophy of Science	
ST	330	Language, Rhetoric and Science	
		Practical Experience	3
		Satisfied by ENV 400, an approved community-based internship, or another experiential learning course as approved.	
		STS Electives (*credits used toward 15 cr req)	15
		Of these credits 12 must be at the 300-400 level, 6 must be social science related, and 6 must be humanities related. Three hours of independent study/internship credit can be used. One research methods course is allowed.	
		Natural Science Courses	5
BI	230	Ecology and Evolutionary Biology	
NW	207	Ecology and the Natural Environment	
CH	105	<i>General Chemistry 1</i>	-
CH	106	<i>General Chemistry 2</i>	-
		Credits	39

#### Biomedical Engineering

			Credits
CH	351	Organic Chemistry 1	3
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	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		Gateway Elective <sup>i</sup>	3
BME		Tech Elective <sup>i</sup>	3
BME		Sci/Tech Electives <sup>i</sup>	6
		Credits	73

**189 - 197 Total Credits**

<sup>i</sup> BME/Sci/Tech electives must be selected in consultation with an advisor to form an appropriate Depth Area