

# Engineering Dual Degree Requirements

## Biomedical Engineering & Economics

### 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
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### General Core Requirements

General Core Requirements			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)

### 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			25-33

### Common Engineering

Mathematics			Credits
MA	106	Calculus & Analytical Geometry 1 <sup>+</sup>	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	Introduction to Analytical Physics 1 <sup>1</sup>	5
PH	202	Introduction to Analytical Physics 2	5

### 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			52

### Economics

Economics			Credits
MS	100	<i>Basic Excel Skills</i> <sup>1</sup>	-
MS	264	<i>Business Statistics</i> <sup>2</sup>	-
MS	265	Information Technology	3
EC	231	Principles of Microeconomics	3
EC	232	Principles of Macroeconomics	3
EC	332	Intermediate Macroeconomics	3
EC	354	Intermediate Microeconomics	3
EC	464	Quantitative Methods-Econometrics	3
Economics Electives (choose 4)			12
EC	336	Comparative Economic Systems	
EC	339	Economic History of the United States	
EC	342	Law and Economics	
EC	346	Health Care Economics	
EC	351	Urban Economics	
EC	352	Personnel Economics (WAC)	
EC	355	Money & Banking	
EC	391	Environmental & Natural Resources	
EC	433	International Economics	
EC	434	Economics of Taxation & Public Expenditures	
EC	438	Economic History of Europe	
EC	462	Mathematical Economics	
EC	495	Special Topics in Economics	
Credits			30

### Biomedical Engineering

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	4
BME	322	Probability & Statistics for BME <sup>2</sup>	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			75

### 182 - 190 Total Credits

<sup>1-2</sup> used as equivalents for degree requirements

<sup>+</sup> also required for Economics major

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