

## Engineering Dual Degree Requirements

### Energy 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
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 <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
<b>Core Credits</b>	<b>19(30)</b>

##### 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) Spanish, French, German, Chinese, Latin	6-14
<b>Credits</b>	<b>25-33</b>

#### 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

	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

	Credits
DD 190 Elementary Engineering Design	3
DD 297 MATLAB	1
CS 142 Intro to Computer 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 52

#### Economics

	Credits
MS 100 <i>Basic Excel Skills</i> <sup>1</sup>	-
MS 264 Business Statistics	3
MS 265 Information Technology	3
EC 231 Principles of Microeconomics <sup>2</sup>	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	
<b>Credits</b>	<b>33</b>

#### 181 - 189 Total Credits

#### Energy Engineering

	Credits
ECON 201 <i>Microeconomics</i> <sup>2</sup>	-
PH 351 Analog Electronics (WAC)	4
MA 359 Probability and Statistics	3
ME 200 Thermodynamics	3
ME 272 Mechanics of Materials	3
ME 314 Heat & Mass Transfer	3
ME 482 Control Systems	3
ECE 321 Electromechanical Motion Devices	3
ECE 495 Fundamentals of Electrical Energy	3
EEN 220 Fund of Electrochem Mat & Energy Engr	3
EEN 225 Energy Engineering Lab I	1
EEN 240 Basic Engineering Mechanics	4
EEN 250 Energy Engineering Lab II	1
EEN 260 Sustainable Energy	3
EEN 262 Engr Design, Ethics, & Entrepreneurship	2
EEN 310 Fluid Mechanics	3
EEN 325 Energy Engineering Lab III	1
EEN 330 Dynamic Sys Modeling & Measurements	3
EEN 345 Renewable Energy Systems	3
EEN 350 Energy Engineering Lab IV	1
EEN 425 Energy Engineering Lab V	1
EEN 445 Compressible Flow & Renewable KE	3
EEN 462 Capstone Design	3
EEN Electives	12
Tech Elective	2
<b>Credits</b>	<b>71</b>

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

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