



Pre-Engineering
Mechanical Engineering / Energy Engineering Path
Associate of Science – Transfer to IUPUI
Ivy Tech Community College – Central Indiana
Academic Year: 2011

The Mechanical Engineering/Energy Engineering Path of the Pre-Engineering (ENGR) program will prepare students to transfer to baccalaureate degree programs in mechanical engineering (BSME) or energy engineering (BSEEN). While preparing to transfer to IUPUI, students will learn to work in a cooperative team environment and will build a strong foundation in science, math, and technology with special emphasis on qualitative and quantitative analytical skills necessary in engineering design, problem solving, and applied aspects of science and engineering.

General Education Core – 46-48 Credits		Credits	Grade	Prerequisites [Corequisites]
IVYT 1XX	Life Skills Elective	1-3		None
COMM 101	Fundamentals of Public Speaking	3		ENGL 025/093, ENGL 032/083
ENGL 111	English Composition	3		ENGL 025/093, ENGL 032/083
ECON 202	Principles of Microeconomics	3		ENGL 111, MATH 015 or MATH 023
MATH 211	Calculus I	4		MATH 136, MATH 137
MATH 212	Calculus II	4		MATH 211
MATH 213	Multidimensional Mathematics	3		MATH 136, MATH 137
MATH 261	Multivariate Calculus	4		MATH 212
MATH 264	Differential Equations	3		MATH 261
CHEM 105	General Chemistry I	5		C: MATH 136
PHYS 220	Mechanics	5		MATH 211
PHYS 221	Heat, Electricity, and Optics	5		PHYS 220, MATH 212
XXXX XXX	Humanities/Social Sciences Elective	3		See appropriate course description

Professional / Technical Core – 20 Credits		Credits	Grade	Prerequisites [Corequisites]
ENGR 195	Introduction to Engineering Profession	1		None
ENGR 196	Introduction to Engineering	3		None
ENGR 197	Introduction to Programming Concepts	2		MATH 136, MATH 137; [C: MATH 136, MATH 137]
ENGR 200	Thermodynamics	3		PHYS 220
ENGR 204	Introduction to Electronic Circuits	4		PHYS 221
ENGR 260	Vector Mechanics – Statics	3		MATH 212
ENGR 261	Dynamics	3		ENGR 260
ENGR 297	Computer Tools for Engineering (Matlab)	1		ENGR 197

Total Required Credits 66-68

Sample Full-time Curriculum Sequence Two Academic Years

Semester 1		Credits
IVYT 1XX	Life Skills Elective	1-3
COMM 101	Fund. of Public Speaking	3
CHEM 105	General Chemistry I	5
MATH 211	Calculus I	4
ENGR 195	Intro. to Engineering Profess.	1
ENGR 196	Intro. to Engineering	3
Total Credits		17-19

Semester 2		Credits
ENGL 111	English Composition	3
PHYS 220	Mechanics	5
MATH 212	Calculus II	4
MATH 213	Multidimensional Math.	3
ENGR 197	Intro. to Prgrmmng. Concepts	2
Total Credits		17

Semester 3		Credits
PHYS 221	Heat, Elect., Optics	5
MATH 261	Multivariate Calculus	4
ENGR 200	Thermodynamics	3
ENGR 260	Vector Mechanics – Statics	3
ENGR 297	Comp. Tools for Eng (Matlab)	1
Total Credits		16

Semester 4		Credits
ECON 202	Principles of Microeconomics	3
MATH 264	Differential Equations	3
XXXX XXX	Humanities/Social Science Elective	3
ENGR 204	Intro. to Electronic Circuits	4
ENGR 261	Dynamics	3
Total Credits		16

My Curriculum Plan

Use this chart to plan the length of time to complete your program.

Semester 1		Credits
Total Credits		

Semester 2		Credits
Total Credits		

Semester 3		Credits
Total Credits		

Semester 4		Credits
Total Credits		

Semester 5		Credits
Total Credits		

Semester 6		Credits
Total Credits		