Energy Systems Engineering

YEAR 1			YEAR 2		
FALL	**WINTER**	**SPRING**	**FALL**	**WINTER**	**SPRING**
ENGR 100 (3 cr) The OSU Engineering Student	**ENGR 102 (3 cr)** Design Engineering & Problem Solving	**ENGR 103 (3 cr)** Eng Computation & Algorithmic Thinking _Preq: ENGR 102_	**ENGR 211 (3 cr)** Statics _Preq: MTH 252_	**ENGR 212 (3 cr)** Dynamics _Preq: ENGR 211, PH 211_	**IE 212 (4 cr)** Computational Methods for IE _Preq: ENGR 112_
CH 201 (3 cr) Chemistry for Engineering Majors _Coreq: MTH 111 or MTH 251_	**CH 202 (3 cr)** Chemistry for Engineering Majors _Preq: CH 201_	**CH 205 (1 cr)** Lab for CH 202 _Preq/co-req: CH 202_	**ENGR 201 (3 cr)** Electrical Fundamentals I _Preq: MTH 251 & 252_	**ENGR 202 (3 cr)** Electrical Fundamentals II _Preq: ENGR 201_	**PERSPECTIVES (4 cr)** Biological Science
MTH 251 (4 cr) Differential Calculus _Preq: MTH 112 or place._	**MTH 252 (4 cr)** Integral Calculus _Preq: MTH 251_	**MTH 254 (4 cr)** Vector Calculus I _Preq: MTH 252_	**MTH 256 (4 cr)** Applied Differential Equations _Preq: MTH 254_	**MTH 341 (3 cr)** Linear Algebra _Preq: MTH 254_	**ST 314 (3 cr)** Intro to Statistics for Engineers _Preq: MTH 252_
WR 121 (3 cr) English Composition	**PERSPECTIVES** Social Processes & Institutions **ECON 201 (4 cr)** Intro to Microeconomics	**WR 327 (3 cr)** Technical Writing _Preq: WR 121_	**PH 211 (4 cr)** General Physics with Calculus _Prereq: MTH 251 & Co-req MTH 252_	**PH 212 (4 cr)** General Physics with Calculus _Preq: PH 211_	**PH 213 (4 cr)** General Physics with Calculus _Prereq: PH 212 & MTH 254_
		COMM 111 (3 cr) Public Speaking		**PERSPECTIVES (3 cr)** Difference, Power & Discrimination	**HHS 231 (2 cr) & HHS 241 or PAC (1 cr)** Lifetime Fitness for Health

NOTES:
- This schedule is tentative and subject to change
- Courses may not be offered in the term shown in future years. Students should check with their advisor about upcoming changes.

Energy Systems Engineering

YEAR 3

FALL

IE 425 (4 cr)
Industrial Systems Optimization

Preq: ST 314, MTH 341

ME 311 (4 cr)
Introduction to Thermal-Fluid Sciences

Preq ENGR 212, MTH 256

ENGR 390 (3 cr)
Engineering Economy

ESE 330 (4 cr)
Modeling and Analysis of Dynamic Systems

Preq: ENGR 202 & 212, MATH 256 & 341

WINTER

IE 415 (4 cr)
Simulation and Decision Support Systems

Preq: ST 314

ME 312 (4 cr)
Thermodynamics

Pre:q ME 311, MTH 256

ESE 360 (4 cr)
Energy Consumption Analysis

Preq: ENGR 390, ME 311

BA 357 (4 cr)
Operations Management

Preq: ST 314, Jr standing

SPRING

PERSPECTIVES (3 cr)
Cultural Diversity

ESE 470 (4 cr)
Energy Distribution Systems

Preq: ENGR 202, ME 311

ESE 355 (4 cr)
Energy Regulation

Preq: ENGR 390

IE 471 (3 cr)
Project Management in Engineering

Preq: ENGR 390

YEAR 4

FALL

ESE 497 (4 cr)
MIME Capstone Design

Preq: See notes

ME 331 (4 cr)
Introductory Fluid Mechanics

Preq: MTH 254, 256, ENGR 212, ME 311

SYNTHESIS
Contemporary Global Issues
SUS 350 (4 cr)
Sustain. Communities

ESE 499 (4 cr)
TBD

Upper Level Restricted Elective

WINTER

ESE 498 (4 cr)
MIME Capstone Design

Preq: ESE 497

ME 332 (4 cr)
Heat Transfer

Preq: MTH 256, ENGR 212, ME 311, 331

PERSPECTIVES (3 cr)
Western Culture

ESE 430 (4 cr)
Feedback Control Systems

Preq: ESE 330

SPRING

ESE 450 (4 cr)
Energy Generation Systems

Preq: ME 312

SYNTHESIS (4 cr)
Science, Technology & Society

ESE 471 (4 cr)
Energy Storage Systems

Preq: ENGR 202, ME 312

PERSPECTIVES (3 cr)
Literature & Arts

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- ESE 497 pre-requisites: ENGR 390, IE 425, ME 312, ME 331 (co-requisite), ESE 355, ESE 360, WR 327 & ST 314.