

SAMPLE CURRICULUM 2023-2024
Energy Systems Engineering

<u>YEAR 1</u>			<u>YEAR 2</u>		
FALL	WINTER	SPRING	FALL	WINTER	SPRING
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 100 (3 cr) The OSU Engineering Student </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> CH 201 (3 cr) Chemistry for Engineering Majors Pre-req: MTH 111Z </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> MTH 251 (4 cr) Differential Calculus <i>(Taught Fall, Winter & Summer)</i> Preq: MTH 112Z or place. </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> WR 121Z (4 cr) English Composition <i>(Taught Fall, Winter, & Spring)</i> </div> <div style="border: 1px solid black; padding: 5px;"> COMM 111Z (4 cr) Public Speaking <i>(Taught Fall & Winter)</i> or COMM 114 (3 cr) Argument & Critical Discourse <i>(Taught Spring)</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 102 (3 cr) Design Engineering & Problem Solving </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> CH 202 (3 cr) Chemistry for Engineering Majors Preq: CH 201 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> MTH 252 (4 cr) Integral Calculus <i>(Taught Winter, Spring & Summer)</i> Preq: MTH 251 </div> <div style="border: 1px solid black; padding: 5px;"> PERSPECTIVES Social Processes & Institutions ECON 201 (4 cr) Intro to Microeconomics <i>(Taught Fall & Winter)</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 103 (3 cr) Eng Computation & Algorithmic Thinking Preq: ENGR 102, MTH 112Z </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> CH 205 (1 cr) Lab for CH 202 Preq/co-req: CH 202 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> MTH 254 (4 cr) Vector Calculus I <i>(Taught Fall, Spring, & Summer)</i> Preq: MTH 252 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> WR 227Z (4 cr) Technical Writing <i>(Taught Winter, Spring & Summer)</i> Preq: WR 121Z </div> <div style="border: 1px solid black; padding: 5px;"> HHS 231(2 cr) & HHS 241 or PAC (1 cr) <i>(Taught Fall, Winter, Spring)</i> Lifetime Fitness for Health <i>(All)</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 211 (3 cr) Statics Preq: MTH 252 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 201 (3 cr) Electrical Fundamentals I Preq: MTH 251 & 252 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> MTH 256 (4 cr) Applied Differential Equations Preq: MTH 254 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> PH 211 (4 cr) General Physics with Calculus Prereq: MTH 251 & Co-req MTH 252 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 212 (3 cr) Dynamics Preq: ENGR 211, PH 211 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ENGR 202 (3 cr) Electrical Fundamentals II Preq: ENGR 201 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> MTH 341 (3 cr) Linear Algebra Preq: MTH 254 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> PH 212 (4 cr) General Physics with Calculus Preq: PH 211 </div> <div style="border: 1px solid black; padding: 5px;"> PERSPECTIVES (3 cr) Difference, Power & Discrimination <i>(see bacc core guide)</i> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> IE 212 (4 cr) Computational Methods for IE Preq: ENGR 103 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> PERSPECTIVES (4 cr) Biological Science <i>(see bacc core guide)</i> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> ST 314 (3 cr) Intro to Statistics for Engineers <i>(Taught Spring & Summer)</i> Preq: MTH 252 </div> <div style="border: 1px solid black; padding: 5px;"> PH 213 (4 cr) General Physics with Calculus Prereq: PH 212 & MTH 254 </div>

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.

SAMPLE CURRICULUM 2023-2024

Energy Systems Engineering

<u>YEAR 3</u>			<u>YEAR 4</u>		
FALL	WINTER	SPRING	FALL	WINTER	SPRING
<p>IE 425 (4 cr) Industrial Systems Optimization</p> <p>Preq: ST 314, MTH 341</p>	<p>IE 415 (4 cr) Simulation and Decision Support Systems</p> <p>Preq: ST 314</p>	<p>ME 331 (4 cr) Introductory Fluid Mechanics</p> <p>Preq: ME 311</p>	<p>ENGR 415 (4 cr) Engineering Capstone Design I</p> <p>Preq: See notes</p>	<p>ENGR 416 (4 cr) Engineering Capstone Design II</p> <p>Preq: ENGR 415</p>	<p>ESE 450 (4 cr) Energy Generation Systems</p> <p>Preq: ME 312</p>
<p>ME 311 (4 cr) Introduction to Thermal-Fluid Sciences</p> <p>Preq ENGR 212, MTH 256</p>	<p>ME 312 (4 cr) Thermodynamics</p> <p>Pre:q ME 311</p>	<p>ESE 470 (4 cr) Energy Distribution Systems</p> <p>Preq: ENGR 202, ME 311</p>	<p>ESE 499 (4 cr) TBD Upper Level Restricted Elective</p>	<p>ME 332 (4 cr) Heat Transfer</p> <p>Preq: ME 331</p>	<p>ESE 471 (4 cr) Energy Storage Systems</p> <p>Preq: ENGR 202, ME 312</p>
<p>ENGR 390 (3 cr) Engineering Economy</p>	<p>ESE 360 (4 cr) Energy Consumption Analysis</p> <p>Preq: ENGR 390, ME 311</p>	<p>ESE 355 (4 cr) Energy Regulation</p> <p>Preq: ENGR 390</p>	<p>SYNTHESIS Contemporary Global Issues SUS 350 (4 cr) Sustain. Communities</p>	<p>ESE 430 (4 cr) Feedback Control Systems</p> <p>Preq: ESE 330</p>	<p>SYNTHESIS (4 cr) Science, Technology & Society <i>(see bacc core guide)</i></p>
<p>ESE 330 (4 cr) Modeling and Analysis of Dynamic Systems</p> <p>Preq: ENGR 202 & 212, MTH 256 & 341 or 264</p>	<p>BA 357 (4 cr) Operations Management <i>(Taught Winter & Spring)</i></p> <p>Preq: ST 314, Jr standing</p>	<p>IE 471 (3 cr) Project Management in Engineering</p> <p>Preq: ENGR 390</p>	<p>PERSPECTIVES (3 cr) Cultural Diversity <i>(see bacc core guide)</i></p>	<p>PERSPECTIVES (3 cr) Western Culture <i>(see bacc core guide)</i></p>	<p>PERSPECTIVES (3 cr) Literature & Arts <i>(see bacc core guide)</i></p>

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- ENGR 415 pre-requisites: ME 312, ME 331 (co-requisite), ESE 355, ESE 360, IE 425, WR 227Z