# B.S. Industrial & Systems Engineering 2023-2024 Academic Year

**Suggested Curriculum** - This should be used as a guide only. Semester offerings are subject to change.

<table>
<thead>
<tr>
<th>Year</th>
<th>Autumn</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>MATH 1150 (Pre-Calculus) ........................................ 5 hr</td>
<td>PHYSICS 1250 (Intro to Physics I) .................................. 5 hr</td>
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<td></td>
<td>ENGR 1181 (Fundamentals of Engineering I) ......................... 2 hr</td>
<td>MATH 1151 (Calculus I) ............................................. 5 hr</td>
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<td>ENGR 1100 (Engineering Survey) ...................................... 1 hr</td>
<td>ENGR 1182 (Fundamentals of Engineering II) ....................... 2 hr</td>
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<td>General Education (Writing and Info Literacy) .................... 3 hr</td>
<td>CSE 1224 (Intro to Programming in Python) ....................... 3 hr</td>
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<td>Additional Science† .................................................. 4-5 hr</td>
<td>*GENED 1201 (GE Launch Seminar) ................ .................. 1 hr</td>
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<td><strong>15 hr</strong></td>
<td><strong>16 hr</strong></td>
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<td>2</td>
<td>ISE 2040.01 or .02 (Engineering Economics) ....................... 2 hr</td>
<td>MATH 2568 (Linear Algebra) ....................................... 3 hr</td>
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<td>ISE 2500 (Intro to Manufacturing) ................................... 3 hr</td>
<td>STAT 3470.01 or .02 (Probability &amp; Statistics) ................. 3 hr</td>
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<td>CSE 2112 (Spreadsheets/Databases for Engineers) .................. 3 hr</td>
<td>MECHENG 2040 (Statics &amp; Mechanics) ............................. 4 hr</td>
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<td>PHYSICS 1251 (Intro to Physics II) ................................ 5 hr</td>
<td>+ENGR 2301 (Exploring Citizenship in ENGR) ...................... 4 hr</td>
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<td>MATH 1172 (Engineering Math A) .................................... 5 hr</td>
<td>General Education (Social &amp; Behavioral Sci) ................... 3 hr</td>
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<td><strong>18 hr</strong></td>
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<td>3</td>
<td>ISE 2400 (Design of Work) .......................................... 2 hr</td>
<td>ISE 4120 (Quality &amp; Reliability Engineering) ................. 3 hr</td>
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<td>ISE 3200 (Linear &amp; Integer Programming) .......................... 3 hr</td>
<td>ISE 3400 (Product Planning &amp; Facilities Design) .............. 4 hr</td>
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<td>ISE 3600 (Workplace Ergonomics) ................................... 3 hr</td>
<td>†PHILOS 1332 (Engineering Ethics) ............................... 3 hr</td>
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<td>MATH 2415 (Ordinary/Partial Diff. Equations) .................... 3 hr</td>
<td>ISE 3210 (Non-linear &amp; Dynamic Optimization) ................. 3 hr</td>
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<td>General Education (Theme: Student Choice) ....................... 4 hr</td>
<td>ISE 3800 (Project Management) ................................... 3 hr</td>
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<td>4</td>
<td>ISE 3700 (Cognitive Systems Engineering) ......................... 3 hr</td>
<td>ISE 4900 (Capstone Design) ....................................... 4 hr</td>
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<td>ISE 4100 (Stochastic Modeling &amp; Simulation) ...................... 4 hr</td>
<td>Technical Elective .................................................... 3 hr</td>
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<td>General Education (Racial/Ethnic/Gender Div.) ................... 3 hr</td>
<td>General Education (Lit., Visual, and Perf. Arts.) ........... 3 hr</td>
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Minimum total hours required to complete the degree program = 127

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*GENED 1201 must be taken within your first 3 semesters of enrollment at OSU (not including summer).

+ENGR 2301 can overlap with Theme GE: Citizenship

†PHILOS 1332 can overlap with Foundations GE: Historical and Cultural Studies.

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**Additional Science Options**

†Choose one of the following: ANATOMY 2220, 2300, 3300, ANTHROP 2200, BIOLOGY 1113, 1114, 2100, CHEM 1210, 1250, EARTHSC 1911, 2155, 2203, 2204, 3203, ENR 2155, 3280, EEOB 2510, 2520, GEOG 2200, 3300, PHYSICS 3700 All students must satisfy a 30 credit hour minimum for math and basic sciences. Students with high math or science placements and transfer students without credit for lower courses should consult with an ISE academic advisor to ensure this minimum is met. Such students may be required to take additional approved coursework to meet graduation requirements.

**Technical Electives**

‡The ISE program includes at least 15 semester hours of technical electives from a specific track. These tracks are designed to provide depth within an area of ISE that is of interest to each student and include the following options: Supply Chain Management & Logistics, Data Analytics & Optimization, Management Systems & Operations Research*, Human Systems Integration & Design*, and Manufacturing*. (*In these tracks, students choose 9 credit hours of depth elective courses from a defined set and 6 credit hours of additional depth or breadth elective courses, also from a defined set.)