# B.S. Industrial & Systems Engineering 2022-2023 Academic Year

## Student Information

Name: OSU ID: OSU Admit Term:

Phone: Email *(name.number@osu.edu)*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Suggested Curriculum

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

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| **Year** | **Autumn** | **Spring** |
| 1 |  PHYSICS 1250 *(Intro Physics 1)* (FNS) 5 hr MATH 1151 *(Calculus 1)* (FM&QR/DA) 5 hr ENGR 1181 *(Fundamentals of ENGR 1)* 2 hr ENGR 1100 *(Engineering Survey)* 1 hr General Education *(FW & info literacy;1st wr)*  3 hr16 hr |  PHYSICS 1251 *(Intro Physics 2)* 5 hr MATH 1172 *(Engineering Math A)* 5 hr ENGR 1182 *(Fundamentals of ENGR 2)* 2 hr CSE 1224 *(Programming Python)* 3 hr\_\_\_ Launch Sem *(w/in 3 terms of enroll)* …………….. 1 hr16 hr |
| 2 |  MATH 2568 *(Linear Algebra)* 3 hr STAT 3470 *(Probability & Statistics)* 3 hr MECHENG 2040 *(Statics & Mechanics)* 4 hr ISE 2500 *(Intro to Manf. Engineering)* 3 hr CSE 2112 *(Modeling w/ Sprdst & DB for Engr.)…..*3 hr16 hr |  MATH 2415 *(Ordinary & Partial Diff Eq)* 3 hr ISE 2400 *(Design of Work)* 2 hr ISE 2040 *(Engineering Economics)* 2 hr General Education Theme *(Writing II)* 4 hr *Citizenship for a Diverse and Just World theme***\_\_\_** General Education *(Found Soc& Behav. Sci)*……3 hr ISE 3200 *(Linear & Integer Programming)* 3 hr17 hr |
| 3 |  ISE 3210 *(Non-linear & Dynamic Optimization))* 3 hr ISE 3800 *(Project Management)* 3 hr ISE 3600 *(Workplace Ergonomics)* 3 hr ISE 3700 *(Cognitive Systems Eng)* 3 hr General Ed. Theme (*student choice)* 4 hr16 hr |  Additional Science1 4-5 hr ISE 4120 *(Quality & Reliability Engineering)* 3 hr ISE 3400 *(Prod Plan & Fac Design)* 4 hr General Education *(Found. Hist. & Culture)* 3 hr PHILOS 1332 Engineering Ethics…….….. 3 hr17 hr |
| 4 |  ISE 4100 *(Stoch Modeling & Simulation)* 4 hr Technical Elective2 3 hr Technical Elective 3 hr Technical Elective 3 hr General Education *(F.Lit, Vis. & Perform Arts)* 3 hr16 hr |  ISE 4900 *(Capstone Des.; includes reflection sem)* 4 hr Technical Elective 3 hr Technical Elective 3 hr General Education *(F: Race, ethnic, gend. div)* 3 hr13 hr |

 **Total Hours to complete the degree program = 127**

## Program Options

1 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.

## Acceptance Criteria:

## Acceptance into this program is based on a holistic review of the student’s record including an essay. Admission to major is considered only after a student has taken at least 12 credit hours of letter grade in their undergraduate career at OSU and have

## completed the following courses: MATH 1151, 1172; ENGR 1181, 1182; PHYSICS 1250, (or their equivalents).  Applications are accepted Autumn and Spring semester ONLY. Students must complete the online ISE Major Application the semester in which the student is completing their pre-major requirements (i.e. the semester before the students wants to enter the major).  For more information please visit our website (https://ise.osu.edu/degrees/admission-ise-major) or see an Academic Advisor in the Department of Integrated Systems Engineering.

## Technical and Other Electives

2 The Industrial and Systems Engineering (ISE) program includes 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.

## General Education Requirement

**Foundations**

### Writing and Information Literacy - 3hr

English 1110.xx 3 hr

**Mathematical and Quantitative Reasoning OR Data Analysis 3-5 hr**

Math 1151 5 hr

### Literary, Visual and Performing Arts

 3 hr

**Historical and Cultural Studies**

 3 hr

**Natural Science 4-5 hr**

Physics 1250 5 hr

**Social and Behavioral Sciences**

 3 hr

**Race, Ethnic and Gender Diversity**

 3 hr

### Seminars

### Launch Seminar

###  1 hr

### Reflection Seminar

###  Incorporated into Capstone Design 1 hr

### Thematic Pathways

### Citizenship for a Diverse and Just World 4-6 hr

### 4 cr course from EED (includes 2nd writing req.) 4 hr

### Second Thematic Pathway

###  4-6 hr