



Bachelor of Science Humans & Systems Industrial Engineering Track 2024-2025

Name: _____

UID: _____

2IW and 2MC required in WSU core

Guide may be subject to program change

| First Year | CR | IW/MC | SEM | GR | Title | Pre/Co-Requisites | Fa | Sp | Su |
|---|-----|-------|-----|----|--|--|-----------|-----------|----------|
| ISE 1110(D) | 4.0 | | | | Introduction to Engineering Science Applications for All | ISE 1110(L)c | * | a | * |
| MTH 2570 OR CS 2200 | 4.0 | | | | Discrete Mathematics for Computing Discrete Structures and their Algorithms | WSU MPL 40 or MTH 1280 Min Grade of D WSU MPL 40 or MTH 1280, CS 2200(R)c | * | a | a |
| ENG 1100 ^(C) | 3.0 | | | | English (E-1) | ACT 23 or SAT Verbal 530 or WPL 40 | * | a | a |
| ME 1040* | 3.0 | | | | Engineering Design and Solid Modeling | | * | a | * |
| MTH 2300 ^(C) | 4.0 | | | | Calculus I (E-2 Additional) | MTH 1350 or MPL 50 or ALEKS 76 | a | * | a |
| PHY 2400 ^(C) | | | | | General Physics I (E-6) | (MTH 2300 or EGR 1010 C or better), PHY 2400Lc | a | * | a |
| PHY 2400L ^(C) | 4.0 | | | | General Physics Lab (E-6) | PHY 2400c | a | * | a |
| OR | 1.0 | | | | | | | | |
| PHY 1110 ^(C) | | | | | Principles Physics I | MTH 1280 or WSU MPL 40, PHY 110 (L), PHY 1110(R)c | a | * | a |
| PHY 1110L ^(C) | | | | | Principles Physics I(L) | PHY 1110: PHY 1110(R)c | a | * | a |
| PSY 1010 | 4.0 | IW | | | Psychology (Social Sciences) (E-5) | | a | * | a |
| CS 1160(D) | 4.0 | | | | Introduction to Computer Programming | MPL 30 or DEV 0970 Minimum Grade of P, CS 1160Lc | a | * | * |
| Credit Hours Per Semester in the Model Program | | | | | | | 14 | 17 | 0 |

| Second Year | CR | IW/MC | Sem | GR | Title | Pre/Co-Requisites | Fa | Sp | Su |
|---|-----|-------|-----|----|---|---|-----------|-----------|----------|
| ISE 2211(D) | 3.0 | | | | Statistics for Engineers | EGR 1010 or MTH 2300 | * | a | * |
| MTH 2310 | 4.0 | | | | Calculus II (E-2 Additional) | MTH 2300 | * | a | a |
| PHY 2410 | | | | | General Physics II (E-6) | PHY 2400, MTH 2300, {MTH 2310}, PHY 2410Lc | * | a | a |
| PHY 2410L OR | 4.0 | | | | General Physics II Lab (E-6) | PHY 2410c | * | a | a |
| PHY 1120 | 1.0 | | | | Principles of Physics II | PHY 1110, PHY 1120Lc | * | a | a |
| PHY 1120L | | | | | Principles of Physics II lab | PHY 1120c | * | a | a |
| | 3.0 | | | | Global Traditions/Interdisciplinary (E-3) | | * | a | a |
| ISE 3540 or CS 3840 | 3.0 | | | | Intro to Machine Learning in EGR Apps-(CS 1160 or CS 1180) & (ISE 2211 or MTH2570) or (CS2200 or STT3600) | | a | * | a |
| | 4.0 | | | | Applied Machine Learning | CS 1160 or CS 1180 or CEG 2170 or CS 2200 or STT 3600 or ISE 2211 | a | * | a |
| | 4.0 | | | | Natural Science(E-6) – Choose from list on back of guide *** | | a | * | a |
| MTH 2530 | 3.0 | | | | Elementary Linear Algebra | MTH 2300 Min grade of D | a | * | a |
| | 3.0 | | | | Social Science (E-5) | | a | * | a |
| Credit Hours Per Semester in the Model Program | | | | | | | 15 | 13 | 0 |

| Third Year | CR | IW/MC | Sem | GR | Title | Pre/Co-Requisites | Fa | Sp | Su |
|---|-----|-------|-----|----|---|---|-----------|-----------|----------|
| ISE 4300(D) | 3.0 | | | | Fundamentals of Human Factors Engineering | ISE 2211, PSY 1010 | * | * | * |
| ISE 4711(D) | 3.0 | | | | Optimization Methods | ISE 2211 and (MTH 2570 or MTH 2300) | * | * | * |
| ISE 4150(D) | 3.0 | | | | Advanced Statistics for Engineers | ISE 2211 | * | * | * |
| ISE 4850(D) | 3.0 | | | | Six Sigma for Engineers | ISE 2211 | * | * | * |
| EGR 3350 or ENG 2140(D)* | 3.0 | | | | Tech Comm for Engineers & Computer Scientists (E-1) | ENG 1100 Rsrch, Tech Writing & Prestation for Scientists and Egr | * | a | * |
| | 3.0 | | | | Human System Interaction and Design Thinking Principles | ISE 2211, ISE 4300 | * | * | * |
| ISE 4320(D) | 3.0 | | | | Computer Applications in ISE | ISE 4150, CS 1160 | * | * | * |
| ISE 4510(D) | 3.0 | | | | Simulation and Stochastic Models | ISE 4150, ISE 4712Lc | * | * | * |
| ISE 4712(D) | 4.0 | | | | Global Traditions/History (E-3) | | a | * | * |
| | 3.0 | | | | Supply Chain Analysis & Design | ISE 4711 | * | * | * |
| ISE 4820(D) | 3.0 | | | | | | * | * | * |
| Credit Hours Per Semester in the Model Program | | | | | | | 15 | 16 | 0 |

| Fourth Year | CR | IW/MC | Sem | GR | Title | Pre/Co-Requisites | Fa | Sp | Su |
|---|-----|-------|-----|----|--------------------------------------|--|-----------|-----------|----------|
| ISE 4310(D) | 3.0 | | | | Ergonomics | ISE 2211 | * | * | * |
| ISE 4400(D) | 3.0 | | | | Engineering Economy | EGR 1010 or MTH 2300 | * | * | * |
| ISE 4810(D) | 3.0 | | | | Production and Service Systems | ISE 2211, ISE 4711, ISE 4712 | * | * | * |
| ISE 4910(D) | 3.0 | IW | | | Senior Design I | ISE 4320, ISE 4712, EGR 3350 | * | * | * |
| | 3.0 | | | | Technical or General Elective | | * | a | a |
| MIS 3000 or MGT 3100 | 3.0 | | | | Fundamentals of Information Systems | Junior Status and permission from RSCOB required to register | a | * | a |
| | 3.0 | | | | Management & Organizational Behavior | Junior Status and permission from RSCOB required to register | a | * | a |
| | 3.0 | | | | Technical (see approved list) | | a | * | a |
| | 3.0 | | | | Arts/Humanities (E-4) | | a | * | a |
| ISE 4920(D) | 3.0 | IW | | | Senior Design II | ISE 4910 | * | * | * |
| Credit Hours Per Semester in the Model Program | | | | | | | 15 | 15 | 0 |

Total Semester Credit Hours = 120.0

Meets or exceeds ABET minimum requirements of 37.5% engineering credit hours(45 semester credit hours).

Advisor Initials: _____

Program Planning - The student, in cooperation with an advisor, should use a Program Guide and the corresponding undergraduate catalog to plan a complete program. Any problem which arises in connection with a particular Program Guide should be referred to the student's advisor.

Additional Requirements:

- Students are required to have two Multicultural Competence (MC) courses from any of the Wright State Core MC designated courses, Study Abroad courses, or Service Learning courses.
- Students are also required to have two Integrated Writing (IW) courses from the Wright State Core.

Notes:

1. **Use this guide, advisor consultations, and the Undergraduate Catalog to carefully plan a program of study.** Most courses are offered only once or twice a year. Completion of the courses in the order indicated on this guide is the most efficient path to graduation. Delaying these courses may delay completion of the program. Pay close attention to prerequisite and corequisite information listed on the right of the guide.
2. Students must have met the CECS entrance requirements in order to register for BIE courses numbered 3000 or higher.
3. **In the right-hand columns:**
(*) denotes courses in a model program with a non-conflicting schedule for a full-time student;
(a) denotes courses likely to be available;
(•) denotes courses normally not available. Check the Class Schedule for current information.
4. Prerequisites to a course in { } may be taken concurrently with the course.
5. Course number followed by "c" denotes a corequisite course.
6. Departmental honors research or independent study can fulfill a maximum of three credit hours of TE or GE requirements.
7. (D) following course number indicates course is offered distance.
8. ^(C) = A C or higher is required to move to full major status for (PHY 1110/1110(L) or PHY 2400/2400(L)), MTH 2300 and ENG 1100
9. ME courses with an asterisk (*) are only offered once a year at the Lake Campus.
10. Suggested technical electives can be found at: [Suggested technical electives can be found at: Technical Electives](#)

*****Approved Natural Science Courses**

| | | |
|------------|------------------------------|-----|
| BIO 1060 | Global Ecology and Diversity | 4cr |
| BIO 1120 | Cells and Genes | 4cr |
| BIO 1150 | Organisms and Ecosystems | 4cr |
| ANT 2100 | Human Anatomy and Physiology | 4cr |
| CHM 1210/L | General Chemistry | 5cr |