

Bachelor of Science

Industrial and Systems Engineering Track

2025-2026

Name: _____

UID: _____

Guide may be subject to program change

First Year	CR	IW/MC	Sem	GR	Title	Pre/Co-Requisites	Fa	Sp	Su
UVC 1010	1.0				First Year Seminar-----		*	a	*
MTH 2300 ^(C)	4.0				Calculus I -----	MTH 1350 or MPL 50 or ALEKS 76	*	a	a
ENG 1100 ^(C)	3.0				English -----	ACT 23 or SAT Verbal 530 or WPL 40	*	a	a
ME 1040*	3.0				Engineering Design and Solid Modeling-----		*	a	*
PSY 1010	4.0	IW			Psychology -----		*	a	a
PHY 2400 ^(C)	4.0				General Physics I -----	MTH 2300 or EGR 1010 C or better), PHY 2400Lc	a	*	a
PHY 2400L ^(C)	1.0				General Physics Lab -----	PHY 2400c	a	*	a
CS 1160(D)	4.0				Introduction to Computer Programming-----	MPL 30 or DEV 0970 Minimum Grade of P, CS1160L(c)	a	*	*
MTH 2570	4.0				Discrete Mathematics for Computing-----	WSU MPL 40 or MTH 1280 Min Grade of D	a	*	a
OR CS 2200					Discrete Structures and their Algorithms-----	WSU MPL 40 or MTH 1280, CS 2200(R)c			
Credit Hours Per Semester in the Model Program							15	13	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	a
ME 2120	3.0				Statics-----	EGR 1010 or MTH 2300 and PHY 2400, ME 2120Rc	*	a	*
MTH 2310	4.0				Calculus II -----	MTH 2300	*	a	a
PHY 2410	4.0				General Physics II -----	PHY 2400, MTH 2300, {MTH 2310}, PHY 2410Lc	*	a	a
PHY 2410L	1.0				General Physics II Lab -----	PHY 2410c	*	a	a
ISE 3540(D) or CS 3840	3.0				Applied Machine Learning-----	CS 1160 and (ISE 2211 and MTH 2300)*See back for full list	*	*	*
	3.0				WSU Core Arts & Humanities – History (EC)-----		a	*	a
MTH 2530 or	3.0				Elementary Linear Algebra-----	MTH 2300 Min Grade of D	a	*	a
MTH 2350	4.0				Differential Equations w/Matrix Algebra-----	MTH 2310 Min grade of D	a	*	a
ISE 4330(D)	3.0				Occupational Safety and Health -----	PSY 1010	*	*	*
***	3.0				Approved Science Elective - Choose from back of guide		a	a	a
Credit Hours Per Semester in the Model Program							15	16	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				Operations Research I-----	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 -----	ENG 1100	*	a	*
	3.0				Rsrch, Tech Writing & Prestation for Scientists and Egr-----	ENG 1100 min grad C or ENG 1130 Min Gr C or ENG 1140 Min Gr C	*	a	*
ISE 4320(D)	3.0				Human-System Interaction and Design Thinking Principles-----	ISE 2211, ISE 4300	*	*	*
ISE 4510(D)	3.0				Computer Applications in ISE-----	ISE 4150, CS 1160	*	*	*
ISE 4712(D)	4.0				Simulation and Stochastic Models-----	ISE 4150, ISE 4712Lc	*	*	*
ISE 4721(D)	3.0				Operations Research II-----	ISE 4711	*	*	*
ISE 4820(D)	3.0				Supply Chain Analysis & Design-----	ISE 4711	*	*	*
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	*	a	*
	3.0				WSU Core Arts & Humanities – History (EC)-----		*	a	a
ISE 4920(D)	3.0	IW			Senior Design II-----	ISE 4910	*	*	*
	4.0				General Elective-----		a	*	a
	3.0				General Elective-----		a	*	a
	3.0				WSU Core Social and Behavioral Sciences (ED)-----		a	*	a
	2.0				Additional WSU Core-----		a	*	a
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).

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. Department 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 2400/2400(L), and (MTH 2300), and ENG 1100.
9. Full list of prerequisites for ISE 3540 and CS 3840 are (CS 1160 or CS 1180 or CEG 2170 or ME 1020) and (ISE 2211 or STT 3600 or STT 3700) and MTH 2300
10. Additional Core Requirements
Within the 36 credit hours of the Wright State Core students must successfully complete the following:
 - One Global Inquiry (GI) course
 - Two inclusive Excellence (IE) courses
 - One to two Integrated Writing (IW) courses. To meet degree requirements all students must complete a minimum of three IW courses by choosing either (a) one in the Core and two in the major or (b) two in the Core and one in the major.
Students who do not make choices within the 36 required hours of the Core to fulfill the GI, IE, and IW requirements will take additional Core hours beyond the minimum of 36.

*****Approved Science Electives**

BIO 1060/L	Global Ecology and Diversity
BIO 1120/L	Cells and Genes
BIO 1150/L	Organisms and Ecosystems
ANT 2100/L	Human Anatomy and Physiology
CHM 1210/L	Chemistry I/Lab