



# Bachelor of Science Industrial and Systems Engineering 2019-2020

Name \_\_\_\_\_ UID# U \_\_\_\_\_

\*2 IW and 2MC required in WSU Core \*Guide may be subject to program change

First Year	Cr	W/M/C	Sem Grad	Pre/Co-requisites	Fa	Sp	Su
ISE 1110	1.0		_____	Fundamentals of BIE Engineering.....	*	.	.
CHM 1210	3.0		_____	General Chemistry I .....(HS CHM or CHM 1010),(MTH 1280 or ALEKS level 46),CHM 1210Lc	*	a	a
CHM 1210L	2.0		_____	General Chemistry I Lab.....CHM 1210c	*	a	a
EGR 1010	4.0	IW	_____	Intro Math for Egr Applications (E-2).....(ALEKS level 61 or MPL 40 & HS Trig) or ACT MTH 25 or MTH 1350	*	a	.
PSY 1010	4.0	IW	_____	Psychology (Social Sciences) (E-5).....	*	a	a
ENG 1100	3.0		_____	English (E-1).....ACT 23 or SAT Verbal 530 or WPL 40	a	*	a
MTH 2300	4.0		_____	Calculus I (E-2 Additional).....MTH 1350 or MPL 50 or ALEKS 76	a	*	a
PHY 2400	4.0		_____	General Physics I (E-6) .....(MTH 2300 Grade D or Better or EGR 1010 Grade C or Better), PHY 2400Lc	a	*	a
PHY 2400L	1.0		_____	General Physics I Lab (E-6).....PHY 2400c	a	*	a
_____	3.0		_____	Global Traditions/History (E-3).....	a	*	a
<b>Credit Hours Per Semester in the Model Program.....</b>					<b>14</b>	<b>15</b>	<b>0</b>

Second Year	Cr	Sem Grad	Pre/Co-requisites	Fa	Sp	Su	
ISE 2211	3.0		_____	Statistics for Engineers.....EGR 1010 or MTH 2300	*	a	a
ISE 3211*	4.0		_____	Human Biomechanics I ..... MTH 2300, PHY 2400, ISE 3211Rc	*	.	.
MTH 2310	4.0		_____	Calculus II (E-2 Additional).....MTH 2300	*	a	a
_____	3.0		_____	Global Traditions/Interdisciplinary (E-3).....	*	a	a
ISE 3221*	3.0		_____	Advanced Statistics for Engineers.....ISE 2211	.	*	.
ISE 3212*	3.0		_____	Human Biomechanics II.....ISE/BME 3211	.	*	.
MTH 2350	4.0		_____	Differential Equations w/ Matrix Algebra.....MTH 2310	a	*	a
PHY 2410	4.0		_____	General Physics II (E-6).....PHY 2400, MTH 2300, (MTH 2310), PHY 2410Lc	a	*	a
PHY 2410L	1.0		_____	General Physics II Lab (E-6).....MTH 2300, (MTH 2310), PHY 2410c	a	*	a
<b>Credit Hours Per Semester in the Model Program.....</b>					<b>14</b>	<b>15</b>	<b>0</b>

Third Year	Cr	Sem Grad	Pre/Co-requisites	Fa	Sp	Su	
ISE 3540	3.0		_____	Introduction to Computation for ISE.....MTH 2350	*	.	.
ISE 4300	3.0		_____	Fundamentals of Human Factors Engineering.....ISE 2211, PSY 1010	*	.	.
ISE 4711	4.0		_____	Optimization Methods.....MTH 2350, ISE 4711Lc	*	.	.
ISE 3511	4.0		_____	Bioelectronics I..... MTH 2300 and PHY 2410, ISE 3511Lc	*	.	.
_____	3.0		_____	**Department Approved Technical Elective.....	*	a	.
ISE 4320	3.0		_____	Human-System Interaction & Usability Engineering ..... ISE 2211, ISE 4300	.	*	.
ISE 4510	4.0		_____	Computer Applications in ISE ..... ISE 3540, ISE 4711, ISE 4510Lc	.	*	.
ISE 4712	4.0		_____	Simulation and Stochastic Models ..... ISE 2211, ISE 3540, ISE 4712Lc	.	*	.
EGR 3350	3.0		_____	Tech Comm for Engineers & Computer Scientists (E-1) .....ENG 1100	a	*	a
ISE 4820	3.0		_____	Supply Chain Analysis & Design .....ISE 4711	.	*	.
<b>Credit Hours Per Semester in the Model Program.....</b>					<b>17</b>	<b>17</b>	<b>0</b>

Fourth Year	Cr	Sem Grad	Pre/Co-requisites	Fa	Sp	Su	
ISE 4310	3.0		_____	Ergonomics.....ISE 2211	*	.	.
ISE 4400	3.0		_____	Engineering Economy.....EGR 1010 or MTH 2300	*	.	.
ISE 4810	3.0		_____	Production and Service Systems.....ISE 2211, ISE 4711, ISE 4712	*	.	.
ISE 4910	3.0	IW	_____	Senior Design I.....ISE 4320, ISE 4712, EGR 3350	*	.	.
_____	3.0		_____	Social Sciences (E-5).....	*	a	a
_____	3.0		_____	**Department Approved Technical Elective.....	a	*	.
ISE 4420	1.0		_____	Innovation and Entrepreneurship Seminar Series..... Junior or Senior Status	.	*	.
ISE 4920	3.0	IW	_____	Senior Design II.....ISE 4910	.	*	.
_____	3.0		_____	Arts/Humanities (E-4).....	a	*	a
_____	3.0		_____	**Department Approved Technical Elective.....	a	*	.
<b>Credit Hours Per Semester in the Model Program.....</b>					<b>15</b>	<b>13</b>	<b>0</b>

**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. Complete mathematics and physics courses early since they are prerequisite to many engineering courses. 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. **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.
3. Prerequisites to a course in { } may be taken concurrently with the course.
4. Course number followed by "c" denotes a corequisite course.
- \*\* 5. Choose Technical Electives from this Department Approved List.
- \* 6. Except for ISE 3211, 3212 and ISE 3221, students must have met the CECS entrance requirements in order to register for BIE courses numbered 3000 or higher.
7. Independent study or undergraduate research including departmental honors research can fulfill a maximum of three credit hours of TE requirements.

**\*\*Any course to fulfill a technical elective requirement that is not on this list of approved technical elective must have preapproval prior to the semester in which the course is being taken.**

Course	Title	Pre-req	Fa	Sp	Su
ISE 4850 (3)	Six Sigma for Engineers.....	ISE 2211	a	.	.
ISE 4950 (3)	Undergraduate Research in ISE II.....	(Department Permission)	a	a	a
ISE 4960 (1-4)	Departmental Honors Research.....	(Application and Department Permission)	a	a	a
ISE 4980 (3)	Undergraduate Special Topics in ISE II.....	(Department Permission)	a	a	a
ISE 4990 (3)	Undergraduate Independent Studies in ISE II.....	(Department Permission)	a	a	a
EGR 3990/4990	Engineering Internship.....	30 hours per week or 450 hours total of internship will count as a 3 credit hour technical elective	a	a	a
ISE 3512 (3)	Bioelectronics II.....	ISE/BME 3511, ISE 3512Lc	.	a	.
BME 3530 (3)	Biomedical Signals and Systems.....	BME 3540, MTH 2350, ISE/BME 3511	.	a	.
BME 4421 (3)	Biotransport.....	(ANT 2120 or ANT 3120), MTH 2350	.	a	.
ISE/BME 4350 (3)	Computational Neuroergonomics & Healthcare Applications.....	ISE 4320 and PHY 2410	a	.	.
ISE 4410 (3)	Technology Based Ventures.....	Senior Status	.	a	.
SCM 3070 (3)	Introduction to Operations Management.....	MTH 2300	a	a	a
SCM 3200 (3)	Basics of Supply Chain Management.....	SCM 3070	a	.	.
SCM 3340 (3)	Global Supply Chain Management.....	SCM 3070	.	a	.
SCM 4250 (3)	Supply Chain Information Management.....	SCM 3070	.	a	.
SCM 4600 (3)	Supply Management.....	SCM 3070	a	.	.
ME 4870 (3)	Machining.....	(ME 2210 and ME 2700) or (BME/ISE 3212), ME 4870Lc	a	.	.