

# INDUSTRIAL AND SYSTEMS ENGINEERING, BACHELOR OF SCIENCE (BS)

## Recommended Four-Year Plan

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
MATH 225	Calculus I	4
CHEM 107 & CHEM 111	General Chemistry I and General Chemistry I Lab	4
ENGR 110	Introduction to Engineering	2
ENGL 102	Critical Writing	3
ESAP 101	FIRST Seminar *	0-1
SUBJ 139	Foundations of Academic Discovery <sup>1</sup>	3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
ENGR 120	Engineering Design Tools	2
ENGL 104	Critical Reading	3
MATH 230	Calculus II	4
PHYS 216	University Physics 1 with Lab	4
Social Science Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
ENGR 130	Engineering Computing Tools	2
ENGR 210	Statics	3
ENGR 340	Engineering Economics	3
MATH 231	Calculus III	4
PHYS 217	University Physics 2 with Lab	4
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ENGR 310	Introduction to Electrical Engineering	3
ENGR 220	Engineering Materials	3
MATH 232	Linear Algebra	3
STAT 350	Applied Statistics	3
Select one of the following:		3
COMM 200	Civil Discourse: Theory & Practice	
PHIL 110	Ethics and Civil Discourse	
POLS 235	Civil Discourse and Democracy	
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
ISE 311	Introduction to Operations Research	3
ISE 372	Manufacturing Systems Design and Analysis	3
ISE 373	Quality Engineering	3
ISE 402	Work Design	3

MECH 330	Introduction to Mechatronics	4
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ISE 370	Design of Industrial Systems and Processes	3
ISE 420	Simulation of Industrial Systems	4
ISE 421	Supply Chain & Logistics Engineering	3
ISE 430	Production Planning & Control	3
ISE 440	Health Care Systems Engineering	3
<b>Hours</b>		<b>16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ISE 442	Human Factors Engineering	3
ISE 410	Engineering Project Management	3
ISE 487	Industrial and Systems Engineering Senior Project I	1
ISE Elective		3
Creative & Aesthetic Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
Humanities Inquiry ( <a href="https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/">https://catalog.sru.edu/undergraduate/rock-studies/rock-studies-program/</a> )		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ISE 362	Lean Systems	3
ISE 488	Senior Project II	3
ISE Elective		5
ISE 460	Engineering Risk Analysis	3
Free Elective		3
<b>Hours</b>		<b>17</b>
<b>Total Hours**</b>		<b>128</b>

<sup>1</sup> Course offered in multiple subjects; cannot take course in first major subject.

\* Students are encouraged to take ESAP 101 as a Free Elective.

\*\* This document is meant to serve as a guide. Some planners may show more than 120 credits because faculty have created flexibility in choosing courses. However, only 120 credits are required to obtain a degree. Please consult with your academic adviser and refer to your curriculum guide prior to registering for courses. This plan should be reviewed, and verified, by you and your academic adviser at least once each academic year.

Major Code: 6182

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