

**INDUSTRIAL & SYSTEMS ENGINEERING (ISE) BS DEGREE**  
**ISE Four-Year Study Plan With Prerequisites**

**Freshman Year**

Course	Title	LT	LB	CR	Pre-Requisites	Course	Title	LT	LB	CR	Pre-Requisites
MATH 101	Calculus I	4	0	4	None	MATH 102	Calculus II	4	0	4	MATH-101
PHYS 101	General Physics I	3	3	4	MATH 101-CR	PHYS 102	General Physics II	3	3	4	PHYS-101
CHEM 101	General Chemistry I	3	3	4	None	CSE 101	Introduction to Computer Programming	2	3	3	None
ENGL 101	Introduction to Academic Discourse	3	0	3	None	ENGL 102	Introduction to Report Writing	3	0	3	ENGL-101
AIS 101	Language Foundation	2	0	2	None	AIS 111	Belief & Its Consequences	2	0	2	None
<b>Total</b>						<b>Total</b>					
<b>15</b>						<b>14</b>					
<b>6</b>						<b>6</b>					
<b>17</b>						<b>16</b>					

**Sophomore Year**

Course	Title	LT	LB	CR	Pre-Requisites	Course	Title	LT	LB	CR	Pre-Requisites
ENGL 201	Academic & Professional Communication	3	0	3	ENGL-102	ISE 201	Engineering Economic Analysis	3	0	3	MATH-102
MATH 201	Calculus III	3	0	3	MATH-102	MATH 203	Linear Algebra	3	0	3	MATH-102
STAT 200	Engineering Probability & Statistics	2	3	3	MATH-102	XXX xxx	Free Elective I	3	0	3	None
SOS xxx	Social Science Elective I	3	0	3	None	SOS xxx	Social Science Elective II	3	0	3	None
PRO 201	Engineering Profession I	2	0	2	None	CSE 203	Intro to Data Science	2	3	3	CSE-101, STAT-200
AIS 201	Professional Writing	2	0	2	AIS-101	AIS 211	Ethics and Governance	2	0	2	AIS-111
<b>Total</b>						<b>Total</b>					
<b>15</b>						<b>16</b>					
<b>3</b>						<b>3</b>					
<b>16</b>						<b>17</b>					

**Junior Year**

Course	Title	LT	LB	CR	Pre-Requisites	Course	Title	LT	LB	CR	Pre-Requisites
ISE 301	Operations Research I	3	0	3	MATH 201, MATH 203	ISE 304	Industrial & Systems Engineering Design	2	3	3	ISE 201, ISE 302, ISE 303
ISE 302	Manufacturing Science & Engineering	3	3	4	CHEM101	ISE 305	Statistical Quality Control	3	0	3	STAT-200
ISE 303	Ergonomics & Human Factors	2	3	3	None	ISE 306	Work Analysis & Design	3	0	3	ISE-303
MATH 202	Differential Equations	3	0	3	MATH-201	ISE 307	Production Planning & Inventory Control	3	0	3	ISE-201, ISE-301
AIS 301	Effective Language Communication	2	0	2	AIS-201	XXX xxx	Free Elective II	3	0	3	None
PRO 301	Engineering Profession II	2	0	2	PRO-201	AIS 311	Human Rights in Islam	2	0	2	AIS-211
<b>Total</b>						<b>Total</b>					
<b>15</b>						<b>16</b>					
<b>6</b>						<b>3</b>					
<b>17</b>						<b>17</b>					

**Summer Session**

ISE 399	Summer Training	0	0	0	
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**Senior Year**

Course	Title	LT	LB	CR	Pre-Requisites	Course	Title	LT	LB	CR	Pre-Requisites
ISE 401	Operations Research II	3	0	3	ISE-301, STAT-200	ISE 403	Facility Planning	3	0	3	ISE-307
ISE 402	Discrete Event Simulation	2	3	3	ISE 401-CR	ISE 4xx	ISE Elective III	3	0	3	As per opted elective
ISE 4xx	ISE Elective I	3	0	3	As per opted elective	ISE 4xx	ISE Elective IV	3	0	3	As per opted elective
ISE 4xx	ISE Elective II	3	0	3	As per opted elective	XXX xxx	Free Elective III	3	0	3	None
PRO 401	Engineering Profession III	2	0	2	PRO-301	ISE 492	Senior Design Project II	4	0	4	ISE-491
ISE 491	Senior Design Project I	2	0	2	ISE-304, ISE-307						
<b>Total</b>						<b>Total</b>					
<b>15</b>						<b>16</b>					
<b>3</b>						<b>0</b>					
<b>16</b>						<b>16</b>					

**Total Credit Hours 132**