

Industrial and Systems Engineering

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
ENGR 102 2	ISE 150 4	ISE 220 MATH 126 4	ISE 225 ISE 220 4	ISE 315L ISE 225 4	ISE 435L ISE 150, ISE 225 4	ISE 350 ISE 225 4	ISE 410 ISE 330 4
ISE 105 2	PHYS 151L (GE E) MATH 125 4	CHEM 150aL or MASC 110* 4	ISE 330 MATH 225 4	ISE 370L 4	ISE 495a ISE 225, ISE 382 2	ISE 495b ISE 315, ISE 370, ISE 435 2	ISE 440 4
MATH 125 (GE F)* 4	MATH 126 or MATH 129* MATH 125 4	MATH 225 MATH 126 4	GE B 4	ISE 382 3	PHYS 152L PHYS 151, MATH 126 4	WRIT 340 WRIT 150 4	ISE APPROVED ELECTIVE 4
WRIT 150 4	GESM (GE A)# 4	GE C 4	FREE ELECTIVE 4	MATH 226 OR MATH 229 4	GE C 4	ISE APPROVED ELECTIVE 4	BIOLOGY ELECTIVE (GE D)* 4
GE B 4	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	FREE ELECTIVE 4	OPTIONAL ELECTIVE 4	OPTIONAL ELECTIVE 2

MATHEMATICS (16 UNITS)

MATH 125: Calculus I*

MATH 126 or 129: Calculus II*

MATH 226 or 229: Calculus III

MATH 225: Linear Algebra and Diff. Equations

SCIENCE (16 UNITS)

CHEM 105aL: General Chemistry*

or MASC 110L: Materials Science

PHYS 151L: Mechanics and Thermodynamics

PHYS 152L: Electricity and Magnetism

BIOLOGY ELECTIVE

GENERAL EDUCATION (20 UNITS)

GE A The Arts (1 Course)*

GE B Humanistic Inquiry (2 Courses)

GE C Social Analysis (2 Courses)

GE D Life Sciences (1 Course)*

GE E Physical Sciences (1 Course)*

GE F Quantitative Reasoning (1 Course)*

GE G,H Global Perspectives (2 Courses)*

GESM General Education Seminar (1 Course)

WRITING (8 UNITS)

WRIT 150: Writing and Critical Reasoning

WRIT 340: Advanced Writing

ENGINEERING (60 UNITS)

ENGR 102: Engineering Freshman Academy

ISE 105: Intro. to Industrial and Systems Engineering

ISE 150: Solving Engineering Problems using Python

ISE 220: Foundations of Probability Modeling

ISE 225: Foundations of Data Analysis

ISE 315L: Engineering Project Management

ISE 330: Optimization

ISE 350: Principles and Practices of Systems Engineering

ISE 370L: Human Factors in Work and Systems Design

ISE 382: Database Systems: Storage and Retrieval using SQL

ISE 410: Planning and Scheduling for Production and Supply Chains

ISE 435L: Discrete Systems Simulation

ISE 440: Socio-Technical Systems and Work Organizations

ISE 495a: Senior Design Project

ISE 495b: Senior Design Project

ISE APPROVED ELECTIVES

FREE ELECTIVES (8 UNITS)

SPECIAL NOTES

Courses with the * symbol may be satisfied with AP, IB or A-Level exams. See page 18 for more information.

GESM#: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan.

GE: ISE students satisfy GE D with BIOLOGY ELECTIVE, GE E with CHEM 105aL or PHYS 151L, and GE F with MATH 125. Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

ISE APPROVED ELECTIVES: 8 units of coursework. See academic advisor for approved list of courses.

BIOLOGY ELECTIVE: Select one among BISC 103, BISC 104, BISC 230, or HBIO 205.