



KENNESAW STATE
UNIVERSITY

Double Owl Pathway of Study
EFFECT TERM: Fall 2023

Undergraduate Program Name: Industrial and Systems Engineering, BS (ISYE) – Industrial Engineering Concentration

Graduate Program Name: Intelligent Robotics Systems, MS (IRS)

Pathway Description: There is synergism between Robotics and Industrial and Systems Engineering, especially in the areas of manufacturing and optimization. This pathway will allow BS ISYE students to focus on a career in Intelligent Robotics Systems.

Course Pairs:

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| Double Owl Scholars will NOT take the following BS ISYE courses: | In their place, Double Owl Scholars will take the following MS IRS courses: |
| ISYE upper-level electives (up to 9 hours) | Student may choose from: MTRE 6720, MTRE 6740, MTRE 6750 |

| Year 1 - Fall | Credits | Year 1 - Spring | Credits |
|---|-----------|---|-----------|
| *Area A1: ENGL 1101 - English Composition I | 3 | *Area A1: ENGL 1102 - English Composition II | 3 |
| Core B2: Cultural Perspectives | 3 | *Area B1: ECON 1000 - Economic Issues | 2 |
| ENGR 1000 - Intro to Engineering | 1 | ISYE 1001L - Intro to Industrial and Systems Engineering | 1 |
| MATH 1190 - Calculus I | 4 | *Area E1: POLS 1101 - American Government | 3 |
| CHEM 1211 - Principles of Chemistry I | 3 | *Area D1: MATH 2202 - Calculus II | 4 |
| CHEM 1211 - Principles of Chemistry I Lab | 1 | *Area D2: PHYS 2211 - Principles of Physics I | 3 |
| | | *Area D2: PHYS 2211L - Principles of Physics I Lab | 1 |
| TOTAL SEMESTER CREDITS | 15 | TOTAL SEMESTER CREDITS | 17 |
| Year 2 - Fall | Credits | Year 2 - Spring | Credits |
| TCOM 2010 - Technical Writing | 3 | *Area E4: Social Sciences | 3 |
| †ISYE 2600 - Probability and Statistics I | 3 | *Area E3: World History | 3 |
| ENGR 1100 - Survey of Engineering Applications from Mathematics | 4 | †MATH 3260 - Linear Algebra I | 3 |
| CSE 1321 - Programming and Problem Solving | 3 | ENGR 2214 - Statics | 3 |
| CSE 1321 - Programming and Problem Solving Lab | 1 | Area F: PHYS 2212 & 2212L or CHEM 1212 & 1212L or BIOL 1107 & 1107L | 4 |
| *Area E2: U.S. History | 3 | | |
| TOTAL SEMESTER CREDITS | 17 | TOTAL SEMESTER CREDITS | 16 |
| Year 3 - Fall | Credits | Year 3 - Spring | Credits |
| EDG 2110 - Survey of Engineering Graphics | 2 | ISYE 4425 - Facilities Planning and Material Handling | 3 |

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|--|----------------|--|----------------|
| ISYE 3450 - Work Measurement Study | 3 | ISYE Technical Elective | 4 |
| ENGR 3250 - Project Management for Engineers | 3 | † ISYE 3400 - Eng. Optimization: Deterministic Decision Models | 3 |
| ISYE 3150 - Design and Improvement of Quality Processes | 3 | ACCT 2101 - Principles of Accounting I | 3 |
| ENGR 3325 - Engineering Economic Analysis | 3 | ISYE 3350 - Logistics and Supply Chain Management | 3 |
| *Area C1: Literature of the World | 3 | | |
| TOTAL SEMESTER CREDITS | 17 | TOTAL SEMESTER CREDITS | 16 |
| Year 4 - Fall | Credits | Year 4 - Spring | Credits |
| ISYE 4250 - Manufacturing & Service Systems | 3 | *Area C2: Arts and Culture of the World | 3 |
| ISYE 4500 - Systems Modeling & Simulation | 3 | ISYE 3125 - Statistical Quality Control | 3 |
| † ISYE 4901 - Senior Design Project I | 1 | ISYE 4902 - Senior Design Project | 3 |
| ISYE 4200 - Engineering Optimization: Stochastic Decision Models | 3 | MTRE 6720 | 3 |
| MTRE 6740 | 3 | MTRE 6750 | 3 |
| ENGR 4402 - Engineering Ethics | 1 | | |
| TOTAL SEMESTER CREDITS | 14 | TOTAL SEMESTER CREDITS | 15 |
| Year 5 – SUMMER | Credits | | Credits |
| MRTE 6200 | 3 | | |
| MTRE 6710 | 3 | | |
| | | | |
| TOTAL SEMESTER CREDITS | 6 | | |
| Year 5 - Fall | Credits | Year 5 - Spring | Credits |
| MTRE 6100 | 3 | MTRE 6400 | 3 |
| CS 7267 | 3 | CS 7367 | 3 |
| MTRE 6300 | 3 | | |
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| TOTAL SEMESTER CREDITS | 9 | TOTAL SEMESTER CREDITS | 6 |

PATHWAY TOTAL: $127 + 30 - 9 = 148$