

Rochester INSTITUTE OF TECHNOLOGY

Minor Program proposal form

Kate gleason college of Engineering

**Industrial and Systems Engineering Department**

**Name of Minor:** Industrial Engineering

**Brief description of the minor to be used in university publications**

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| A minor in industrial engineering focuses on the design, improvement, and installation of integrated systems of people, material, equipment and energy – utilizing skills in statistics, ergonomics, operations research and manufacturing. This minor provides students with a background in areas commonly used in this field. |

**1.0 Minor Program Approvals**

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| --- | --- | --- |
|  | Approval request date: | Approval granted date: |
| Academic Unit Curriculum Committee | 01/25/13 | 01/25/13 |
| College Curriculum Committee | 02/19/13  05/05/17 (revision) | 02/19/13  05/09/17 |
| Inter-College Curriculum Committee |  |  |

**2.0 Rationale:**

A minor at RIT is a related set of academic courses consisting of no fewer than 15 semester credit hours leading to a formal designation on a student's baccalaureate transcript

How is this set of academic courses related?

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| This set of courses provides a foundation in industrial engineering and reflects the basics tools, techniques, and methodologies utilized in application. |

**3.0 Multidisciplinary involvement:**

If this is a multidisciplinary minor spanning two or more academic units, list the units and their role in offering and managing this minor.

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| N/A |

**4.0 Students ineligible to pursue this minor:**

The purpose of the minor is both to broaden a student's college education and deepen it in an area outside the student’s major program. A minor may be related to and complement a student’s major, or it may be in a completely different academic/professional area.   It is the responsibility of the academic unit proposing a minor and the unit’s curriculum committee to indicate any home programs for which the minor is not a broadening experience.

Please list below any home programs whose students will not be allowed to pursue this minor, provide the reasoning, and indicate if this exclusion has been discussed with the affected programs:

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| All matriculated undergraduates in engineering and engineering-related programs (i.e., consistent with math/science requirements) are eligible, except industrial engineering students. |

**5.0 Minor Program Structure, Sequence and Course Offering Schedule:**

Describe the structure of the proposed minor and list all courses, their anticipated offering schedule, and any prerequisites.

* All minors must contain at least fifteen semester credit hours;
* Minors may be discipline-based or interdisciplinary;
* In most cases, minors shall consist of a minimum of two upper division courses (300 or above) to provide reasonable breadth and depth within the minor;
* As per New York State requirements, courses within the minor must be offered with sufficient frequency to allow students to complete the minor within the same time frame allowed for the completion of the baccalaureate degree;
* Provide a program mask showing how students will complete the minor.

Narrative of Minor Program Structure:

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| The Industrial Engineering minor will consist of 15 credit hours, at least three core courses and no more than two elective courses.  Pre-requisites:   1. MATH-233 Linear Systems and Differential Equations 2. Choose 1 of the following:  * STAT-205 Applied Statistics * MATH-252 Probability and Statistics II |

As an example, students may complete the minor by following the sequence below. However, given the flexible structure of the course, multiple program masks exist.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Number & Title | SCH | Required | Optional | Fall | Spring | Biennial? | | Prerequisites\* |
| Elective Courses (choose five) | | | | | | | | |
| ISEE-301 Operations Research | 4 |  | Y | Y | Y |  | MATH-233 | |
| ISEE-323 Facilities Planning | 3 |  | Y |  | Y |  | Co-req. ISEE-301 | |
| ISEE-330 Ergonomics/Human Factors | 4 |  | Y |  | Y |  | Co-req. ISEE-325 or STAT-252 or MATH-252 | |
| ISEE-345 Engineering Economy | 3 |  | Y | Y | Y |  | None | |
| ISEE-420 Production Planning and Scheduling | 3 |  | Y | Y |  |  | ISEE-301 and  (STAT-251 or MATH-251) | |
|  |  |  |  |  |  |  |  | |
| ISEE-510 Systems Simulation | 3 |  | Y | Y | Y |  | ISEE-200  ISEE-301  Co-req. STAT-252 or ISEE-325 | |
| ISEE-560 Applied Statistical Quality Control | 3 |  | Y | Y |  |  | Co-req. STAT-252 or MATH-252 or ISEE-325 | |
| ISEE-582 Lean Six Sigma Fundamentals | 3 |  | Y | Y | Y |  | STAT-251 or STAT-145 or MATH-251 or CHME-391 and 4th Year Standing | |
| ISEE-626 Contemporary Production Systems | 3 |  | Y | Y |  |  | Background in Production Systems | |
| Total credit hours: | | | 15 | | | | | |

**\*in most cases, pre-requisites may be satisfied by equivalent courses or instructor permission**