

SYSTEMS ENGINEERING (BRIDGE GRADUATE CERTIFICATE)

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| IE 6220 | Value Engineering |
| IE 6240 | Quality Management Systems |
| IE 6255 | Quality Engineering |
| IE 6275 | Reliability Estimation |

This program is designed for technical professionals with work experience and a degree in engineering. The program consists of twelve credits of coursework scheduled for completion by working engineers in two years. The certificate can serve as a bridge to the M.S. degree in Engineering Management or Industrial Engineering.

Admission Requirements

Applicants must meet the requirements for admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission/>), and either the M.S. program in Industrial Engineering (<http://bulletins.wayne.edu/graduate/college-engineering/industrial-systems-engineering/>) or Engineering Management (<http://bulletins.wayne.edu/graduate/college-engineering/industrial-systems-engineering/>). They must hold a baccalaureate degree in engineering from an institution accredited by the Accreditation Board for Engineering and Technology (ABET). In addition, they must have earned a grade point average of at least 2.8 in the upper division of their undergraduate program or have at least three years of full-time engineering work experience. International students are required to complete the GRE exam.

Students must complete twelve credits consisting of one required foundation course in systems engineering; one 7000-level or above course (IE7480); at least one course in project management, risk/decision analysis, or problem solving; and at most 3 credits of elective courses.

As a bridge certificate, students may later apply all certificate credits toward Master's degree requirements in Engineering Management or Industrial Engineering, provided any such credits have been earned with a minimum 'B' grade and are within the six years time limit for completing the Master's degree.

Graduation Requirements: All course work must be completed in accordance with the regulations of the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/academic-regulations/>) and the College of Engineering (<http://bulletins.wayne.edu/graduate/college-engineering/academic-regulations/>). Students may enroll on a full-time or part-time basis but must complete requirements within three years of admission.

Certificate Course Requirements

| Code | Title | Credits |
|---------|---|---------|
| IE 6490 | Introduction to Systems Engineering in Design | 3 |
| IE 7480 | Knowledge-Based Design | 3 |

Select 3-6 Credits from the following courses:

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| IE 5490/ SYE 5470 | Creative Problem Solving in Design and Manufacturing |
| IE 6840 | Project Management |
| IE 6720 | Engineering Risk and Decision Analysis |
| IE 6405 | Integrated Product Development |
| IE 6425 | Product Lifecycle Management and Sustainable Design |

Up to 3 Credits from the following courses:

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| IE 5780 | Products Liability Introduction for Engineers |
| IE 6005 | Automotive Engineering Statistics |
| IE 6125 | Human Factors Engineering |