

## **PhD in Industrial Engineering**

### **DEGREE REQUIREMENTS**

**Students with a master's degree** will complete a minimum of 30 credits at the 500, 600 and 700 levels, and 27-credit dissertation for 57 total credits.

**Students with a bachelor's degree** will complete a minimum of 45 credits at the 500, 600 and 700 levels and a 27-credit dissertation for 72 total credits.

### **Program Structure**

The following outlines the degree and curricular requirements for the program. In addition to the required coursework each student must complete a preliminary examination, a comprehensive examination, a proposal defense and finally a dissertation defense in order to obtain the degree. Students must maintain a grade point average of 3.5 on a 4.0 scale. Students may also have no more than two course grades of C or lower.

### **Credit Hour Requirements**

Graduate Coursework: at least 57 credit hours beyond BS; at least 30 credit hours beyond MS; 60% of the Ph.D. courses (incl. dissertation) must be at 700 or higher level and 70% of all graduate courses (incl. dissertation) must be at 600 or higher level.

Dissertation: at least 27 credit hours.

### **Preliminary Examination**

Before completing five terms at Western New England University, a student (fulltime) must pass the preliminary examination administered by the department. A student may attempt the examination no more than twice. The examination will be based on the subject material from EMGT 643, EMGT 635, EMGT 648, EMGT 701 and EMGT 704/EMGT 604 and is available as soon as this core set of courses are completed. Request to take the exam is submitted to the IEEM Chair

### **Advisor, Advisory Committee and Plan of study**

Before completing six terms at Western New England University, a student (full-time) must select a major advisor and an advisory committee: With the assistance of the advisor, the student must prepare a plan of study that must be approved by the advisory committee and department chair before the comprehensive examination is attempted. Advisory committees will consist of at least three departmental members (one of which must be the major advisor) and at least one member from outside the department.

### **Dissertation approval examination (proposal defense)**

Students must prepare a written dissertation research proposal and present it orally to the advisory committee (above). A student must be continuously enrolled in EMGT 770-799 (Dissertation) after the dissertation approval examination.

### **Dissertation defense**

Students must successfully defend their dissertation through written and oral presentation. Students must complete this milestone within eight years of initial enrollment into the program. An extension might be granted by the IEEM Chair.

### **Core Curriculum Outline (Students with MS in IE)**

Major Required (Core) Courses All students must complete the following five core courses:		
<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>
<b>IE 601</b>	Advanced Engineering Statistics	<b>3</b>
<b>IE 631</b>	Production and Inventory Modeling	<b>3</b>
<b>IE 635</b>	Optimization Methods 1 NOTE DIFF IN CATALOGUE IT	<b>3</b>
<b>IE 701</b>	Seminar / Research Methods for Engineering	<b>3</b>
<b>IE 629</b>	Advanced Manufacturing Systems	<b>3</b>
Subtotal # Core Credits Required		15
A student who enters the program and does not have a Master of Science degree in Industrial Engineering or a closely-related field will need to complete at least two of the following additional courses:		
IE 619	Engineering Supply Chain	3
IE 626	Discrete System Simulation	3
IE 615	Statistical Quality Control	3
IE 644	Quality Systems	3
IE 643	Design of Experiments	3
Subtotal # Core Credits Required		15

Students may complete their remaining course requirements by taking any additional Industrial Engineering courses or other graduate courses (600 – 700 level) offered by the College of Engineering in consultation with their major advisor.