

**PhD Industrial and Manufacturing Systems Engineering  
(Multi-Disciplinary Program)  
A and B Course List**

<b><u>Category A</u></b>		
Course	Updated	Title
06-91-500		Optimization
06-91-501		Industrial Experimentation and Applied Statistics
06-91-502		Manufacturing Systems Simulation
06-91-503		Production and Inventory Control Systems
06-91-504		Advanced Operations Research I
06-91-505		Advanced Operations Research II
06-91-506		Computer-Aided Modeling of Complex Surfaces
06-91-507		Advances in Industrial Ergonomics
06-91-508		Reliability Engineering
06-91-509		Computer-Integrated Manufacturing
06-91-510		Advanced Engineering Economy
06-91-511		Stochastic Process
06-91-512		Manufacturing Systems Paradigms
06-91-514		Eng Design, Methodology & Applications
06-91-515		Artificial Intelligence Applications in Mfg
06-91-516		Computer-Aided Design (CAD)
06-91-518		Manufacturing Systems: Modelling, Analysis & Performance Measures
06-91-519		Work Organization: Analysis and Design
06-91-520		Engineering Applications in Health Care
06-91-521		Sustainable Manufacturing
06-91-522		Supply Chain Management & Logistics
06-91-523		Product Innovation and Design Management
06-91-524		Advanced Topics in Discrete Optimization
06-91-590-01		Special Topics: Sustainable Manufacturing
06-91-590-02		Special Topics: Industrial Control & Robotics
06-91-590-03		Special Topics: Supply Chain Management and Logistics
06-91-590-04		Special Topics: Product Innovation and Design Management

06-91-590-06		Special Topics: Comp-Aided Modelling of Complex Surfaces
06-91-590-07		Special Topics: Lean Manufacturing & Supply Chain Management
06-91-590-08		Special Topics: Automotive Assembly Work Measurement
06-91-590-09		Special Topics: Manufacturing Systems Modelling Analysis & Performance Measurement
06-91-590-10		Special Topics: Work Organization: Analysis and Design
06-91-590-11		Special Topics: Engineering Issues in Health Care
06-91-590-12		Special Topics: Advanced Algorithms & Numerical Methods
06-91-590-13		Special Topics: Engineering Time Standards
06-91-590-15		Special Topics: Professional Development and Practice
06-91-590-16		ISpecial Topics: Industrial Robots Modeling and Simulation
06-91-590-17		Special Topics: Industrial Robotics Dynamics and Control
06-91-590-18		Special Topics: Complexity in Engineering
06-91-590-19		Special Topics: Cognitive Ergonomics/Systems Design
06-91-590-20		Special Topics: Service Engineering
06-91-590-21		Special Topics: Advanced Computer-aided Machining & Measurement
06-91-590-22		Special Topics: Warehouse Design & Distribution Logistics
06-91-590-23		Special Topics: Product Variety Management
06-91-590-25		Simulation of Industrial Systems
06-91-590-28		Facilities Design and Logistics
06-91-590-29		Special Topics: Essentials of Safety
06-91-590-30		Production Analysis
06-91-590-31		Operations Research II
06-91-590-32		Flexible Manufacturing Systems

06-91-590-33		Special Topics: Product, Process and Business Integration
06-91-590-34		Special Topics:Lean Manufacturing & Process Improvement
06-91-590-35		Special Topics: Industrial Robots Kinematics, Dynamics and Control
06-91-590-37		Special Topics: Introduction to Mechatronics
<b><u>Category B</u></b>		
Course	Updated	Title
03-41-503		Microeconomic Theory II
03-41-531		Industrial Organization
03-41-580		Models of Strategic Behaviour
02-45-588-02	Jan 5, 2012	Selected Topics in Political Science: The Canada -US Border
03-60-549		Virtual Reality
03-60-551		Visual Processing
03-60-554		Advanced Algorithms
03-60-561		Artificial Neural Networks
03-60-570		Introduction to Artificial Intelligence
03-60-576		Advanced Search Methods
03-62-568		Numerical Analysis I
03-62-551		Advanced Linear Programming
03-62-552		Nonlinear Programming
03-62-553		Integer Programming
03-62-554		Combinatorial Optimization
03-63-582		Advanced Statistics
03-63-589		Summer Inst. Clinical Health Research
03-65-546		Statistical Data Analysis
03-65-552		Experimental Design
03-65-559-24	Jan 5, 2012	Optimization In Statistics
04-73-602		Topics in Management Science
04-73-603		Management Science Models
04-73-604		Operation Management
04-75-682		Manufacturing Strategy
04-75-698		Strategic Management
04-76-504		Quantitative Techniques in Management
04-76-514		Management Information System
06-87-590-05	Jan 5, 2012	Urban Transportation Planning

06-88-523		System Theory
06-88-524		Stochastic Processes
06-88-533		Computational Intelligence
06-88-535		Non-linear Systems
06-88-536		Automotive Control Systems
06-92-540		Applied Finite Element Analysis
06-92-542		Advanced Topics in Mechanical Design
06-92-543		Product Design and Development
06-92-593		Intro to Finite Element Analysis
06-93-550		Sustainability: Principles and Practices
07-95-522		Instrumentation and Modelling in Kinesiology
07-95-523		Applied Biomechanics of Human Performance
07-95-524		Biomechanics in the Work Place