# Industrial Engineering Concentration Form

Northwestern University, McCormick School of Engineering and Applied Science

*Return to the IE Undergraduate Coordinator by the second Friday of the last quarter before graduation.*

<table>
<thead>
<tr>
<th>Name ________________________________________</th>
<th>Student ID ____________________</th>
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<tr>
<td>Date__________</td>
<td>Expected Grad Date (Month/Yr) _________</td>
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☐ I have or will complete IE/MS major requirements for AY 2005-06 and wish to declare the following optional concentration(s).

☐ I have or will complete IE/MS major requirements AY 2005-06 and will not complete a concentration.

### Economics and Finance
- Econ 308 Money and Banking
- Econ 309 Elements of Public Finance
- Econ 337 Economics of State and Local Governments
- Econ 349 Industrial Economics
- Econ 361 International Trade
- Econ 362 International Finance
- Econ 380-1.2 Intro to Mathematical Economics
- Econ 381-1.2 Advanced Econometrics
- Econ 383 Economic Forecasting
- IEMS 373 Financial Engineering I
- Math 301 Mathematical Models in Finance
- Math 304 Game Theory
- **IEMS 399

### General Business Management
- Bus Inst 239 Marketing Management
- **Bus Inst 394 Professional Linkage Seminar
- Civ Eng 302 Engineering Law
- Civ Eng 336 Project Scheduling
- IEMS 224 Principles of Accounting and Finance
- IEMS 306 Decision Analysis
- IEMS 325 Engineering Entrepreneurship
- IEMS 342 Organizational Behavior
- IEMS 343 Project Management for Engineers
- IMC 303 Advertising
- IMC 304 Direct Marketing
- **IEMS 399

### Industrial Behavioral Sciences
- CFS Chicago Field Studies (1 credit, petition req)
- Econ 339 Labor Economics
- Econ 350 Monopoly, Competition, and Public Policy
- IEMS 340 Field Project Methods
- IEMS 342 Organizational Behavior
- IEMS 345 Negotiations & Conflict Resolution for Eng
- LOC 211 Intro. To Organization Theory and Practice
- LOC 306 Studies in Organizational Change
- LOC 310 Organizations for Complex Environments
- Sociol 302 Sociology of Organizations
- **IEMS 399

### Mathematical Sciences/Graduate Research
- Comp Sci 311 Data Structures and Data Management
- ES APPM 346 Modeling and Computn in Sci & Engg
- ECE 328 Numerical Methods for Engineers
- Math 304 Game Theory
- Math 310-1,2,3 Introduction to Real Analysis
- Math 337-1,2,3 Introduction to Modern Algebra
- **IEMS 399

### Production and Logistics
- Civ Eng 336 Project Scheduling
- Civ Eng 371 Intro to Transportation Plan & Analysis
- Civ Eng 372 Transportation System Design & Analysis
- Civ Eng 376 Transportation System Operations
- Econ 355 Transportation Economics and Public Policy
- IDEA 344 Manufacturing Engineering Design
- IEMS 381 Supply Chain Modeling and Analysis
- IEMS 382 Production Planning and Scheduling
- IEMS 383 Service Operations Management
- **IEMS 399

### Statistics and Quality Control
- Econ 281 Intro to Applied Econometrics
- IEMS 304 Statistics II
- IEMS 305 Statistical Methods of Quality Improvement
- IEMS 306 Decision Analysis
- IEMS 307 Quality Improvement by Exprmntl Design
- Mat Sci 391 Process Design
- Mech Eng 359 Reliability Engineering
- Stats 325 Survey Sampling
- Stats 350 Regression Analysis
- Stats 351 Design and Analysis of Experiments
- **IEMS 399

*Requires  IEMS faculty approval and a petition.

Four courses in each section must be completed to fulfill optional concentration requirements.

Student’s Signature _____________________________ Date _______________

Advisor’s Signature ______________________________ Date _______________

Program Chair’s Signature ________________________ Date _______________

August 26, 2005