Industrial Engineering Concentration Form
Northwestern University, McCormick School of Engineering and Applied Science

To be Used by Students Following Catalog Year 2010-11 Requirements
Return to the IE Undergraduate Coordinator by the End of Your Junior Year of Study

Name _______________________________________________________ EMPLID ___________________________
Date___________ Expected Grad Date (Month/Yr) ____________ E-Mail ___________________________________

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

**Economics and Finance**
- IEMS 373 Financial Engineering I
- 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
- Math 366-1,2 Mathematical Models in Finance
- Math 364 Game Theory
- *IEMS 399

**General Business Management**
- Bus Inst 239 Marketing Management
- **Bus Inst 394 Professional Linkage Seminar
- IEMS 306 Decision Analysis
- IEMS 325 Engineering Entrepreneurship
- IEMS 342 Organizational Behavior
- Econ 260 Accounting & Business Finance
- 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 341 Social Networks Analysis
- IEMS 342 Organizational Behavior
- 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**
- EECS 311 Data Structures and Data Management
- ES APPM 346 Modeling and Comptn in Sci & Engg
- EECS 328 Numerical Methods for Engineers
- Math 300-0 Foundations of Higher Mathematics
- Math 320-1,2,3 Real Analysis
- Math 330-1,2,3 Abstract Algebra
- Math 364 Game Theory
- *IEMS 399

**Production and Logistics**
- 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
- DSGN 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 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

**NOTE:** This list is for concentrations only. Not all courses listed above qualify as a Technical Elective. Please see Technical Elective requirements for an approved list.

*Requires IEMS faculty approval **Petition required

Student’s Signature ____________________________ Date ______________
Advisor’s Signature ______________________________ Date ______________
Program Chair’s Signature ________________________ Date ______________

May 17, 2010