M.Eng. Proposal Form – **ENGINEERING MANAGEMENT**  
(Students must submit a new form for approval when program changes are proposed)

**NAME:** __________________________  **ADVISOR:** ________________________________

**Student ID:** __________________________  **Project Title:** __________

Duration of program (Number of semesters) ______

First Semester Term ____________

Second Semester Term ____________

Third Semester Term ____________

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 5900</td>
<td>4</td>
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<tr>
<td>CEE 5910</td>
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<tr>
<td>CEE 5930</td>
<td>4</td>
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<tr>
<td>CEE 5970</td>
<td>3</td>
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<td>OR</td>
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<tr>
<td>CEE 5980</td>
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</tbody>
</table>

**FINANCE/ACCOUNTING ELECTIVE (1 required)**

<table>
<thead>
<tr>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
</table>

**BEHAVIOR ELECTIVE (1 required)**

<table>
<thead>
<tr>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
</table>

**SPECIALIZATION ELECTIVES (3 required)**

<table>
<thead>
<tr>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
</table>

**SEMINARS (Indicate if Participatory or Non-Participatory)**

<table>
<thead>
<tr>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
</table>

**ALL OTHER COURSES**

<table>
<thead>
<tr>
<th>Cr.</th>
<th>Semester# 1</th>
<th>Semester# 2</th>
<th>Semester# 3</th>
<th>Comments</th>
</tr>
</thead>
</table>

Total Credits for all Courses ______  ______  ______  ______  

You must be registered for at least 12 credits each semester of your program

**TOTAL M.Eng. PROGRAM CREDIT HOURS:** ______(must equal or exceed 30)

Advisor Signature: __________________________ Date: ____________________

EM Director Signature: __________________________ Date: ____________________
Notes:

1 One course in Finance/Accounting is required. Suggested courses appropriate for a student’s background in accounting and engineering economics are listed below.

<table>
<thead>
<tr>
<th>Student’s Background</th>
<th>Suggested Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>No background in accounting</td>
<td>NBA 5530 – Finance &amp; Accounting for Engineers</td>
</tr>
<tr>
<td>Some accounting, but no engineering</td>
<td>ORIE 5150 – Economic Analysis of Engr. Systems</td>
</tr>
<tr>
<td>economics</td>
<td></td>
</tr>
<tr>
<td>Some background in both accounting</td>
<td>NCC 5560 – Managerial Finance</td>
</tr>
<tr>
<td>and engineering economics</td>
<td></td>
</tr>
</tbody>
</table>

2 One course in individual and/or organizational behavior is required. Suggested courses include:

CEE 6900 Creativity, Innovation and Leadership *(not offered Spring, 2016)*
NCC 5530 Marketing Management
NCC 5540 Management & Organizations
NBA 6630 Managerial Decision Making
NBA 6660 Negotiations
ILROB 5200 Organizational Behavior & Analysis

3 Each student’s program must include three electives selected to provide an area of specialization. *At least two of the three courses must be technical in nature and at least one of the three should be from Engineering.* The student has an option of selecting either a disciplinary specialization or a functional specialization.

Johnson School courses that may be considered as technical specialization courses include:

NBA 5180 Data Mining for Marketing, Sales…
NBA 5270 Applied Price Theory
NBA 6000 Strategic Role of IT
NBA 6010 Electronic Commerce
NBA 6120 Disruptive Technologies
NBA 6390 Data-Driven Marketing
NBA 6410 Logistics and Manufacturing Strategy

*Disciplinary specialization* - The student can select three courses that form a natural extension to the technical work done in their undergraduate major, providing greater depth in that discipline. In most cases, these will be courses at the 5000 or 6000 level in the undergraduate major field. In some cases, courses in a related field will be most appropriate; for example, a student who was an undergraduate in electrical engineering might choose coursework in computer science or materials science. The student and their advisor are responsible for determining an appropriate selection of courses.

*Functional specialization* - Such a specialization will often involve courses selected from two, or even three, departments, but which focus on a particular area of application. The following illustrative functional specialization areas (with examples of appropriate courses for each) are intended to offer ideas that may be useful, but are not intended to be an exhaustive list of possibilities. The student and their advisor can create other options, subject to approval by the Director of the Engineering Management Program.
Decision Support and Systems Development

SYSEN 5100  Applied Systems Engineering
SYSEN 5200  System Architecture, Behavior and Optimization
SYSEN 5300  Design and Operation of Reliable Systems
CEE 5290  Heuristic Methods for Optimization
CRP 5080  Introduction to Geographic Information Systems
CS 4302  Web Information Systems
CS 4320  Introduction to Database Systems
CS 5150  Software Engineering
NBA 6010  Electronic Commerce
NBA 6120  Disruptive Technologies

Energy Systems Management
A&EP 4840  Controlled Fusion
A&EP 6330  Nuclear Reactor Engineering
ChemE 6610  Air Pollution Control
ChemE 6640  Energy Economics
ChemE 6650  Energy Engineering
ChemE 6660  Analysis of Sustainable Energy Systems
ECE 4510  Electric Power Systems I
ECE 4520  Electric Power Systems II
MAE 5010  Future Energy Systems
MAE 5020  Wind Power

Environmental Systems Management
CEE 6200  Water Resource Systems Engineering
CEE 6230  Environmental Quality Systems Engr.
CEE 5980  Introduction to Decision Analysis
CEE 6530  Water Chemistry for Environmental Engineering
CEE 6550  Transport, Mixing and Transformation in the Environment
CEE 6560  Physical/Chemical Processes
ChemE 6610  Air Pollution Control

Manufacturing Management
NBA 6410  Logistics and Manufacturing Strategy
OR&IE 5100  Design of Manufacturing Systems
OR&IE 5126  Supply Chain Management
OR&IE 5120  Production Planning and Scheduling Theory and Practice
OR&IE 5122  Inventory Management

Property Development and Construction
CEE 5950  Construction Planning and Operations
CEE 6750  Concrete Materials & Construction
CRP 5320  Real Estate Development Process
CRP 5330  Real Estate Marketing & Management
CRP 5560  Design in Real Estate Development
CRP 5530  Land Use Regulations
HADM 5240  Real Estate Location Analysis
HADM 6200  Principles of Real Estate
HADM 6280  Real Estate Finance and Investments

Systems Engineering
SYSEN 5100  Applied Systems Engineering
SYSEN 5200  System Architecture, Behavior and Optimization
SYSEN 5300  Design and Operation of Reliable Systems
CEE 5290  Heuristic Methods for Optimization
M&AE 4780  Feedback Control Systems
CS 5150  Software Engineering
OR&IE 5100  Design of Manufacturing Systems

4 Credit for seminars toward the MEng degree only count if the format of the seminar is “participatory” (i.e. requires more than attendance).

5 All courses you are taking should be listed whether or not they count in the MEng program. No more than 20 credits per semester (MEng and non-MEng) may be taken except by petition to the College Master of Engineering Committee.