Major in Mathematics for Management Students

Program Revision Form

(07/2004)

1.0 Degree Title
Specify the two degrees for concurrent degree programs

B. Com

1.1 Major (Legacy= Subject) (30-char. max.)
Major in Mathematics for Management Students

1.2 Concentration (Legacy = Concentration/Option)
If applicable (30 char. max.)

1.3 Minor (with Concentration, if applicable)
(30 char. max.)

1.4 Category

☐ Faculty Program (FP)
☐ Honours (HON)
☐ Major
☐ Joint Honours
☐ Joint Major
☐ Component (HC)
☐ Major Concentration (CON)
☐ Internship/Co-op
☐ Minor
☐ Thesis (T)
☐ Minor Concentration (CON)
☐ Non-Thesis (N)
☐ Other
☐ Please specify

1.5 Complete Program Title

Major in Mathematics for Management Students

2.0 Administering Faculty/Unit

Desautels Faculty of Management

2.1 Offering Faculty/Department

Science / Mathematics and Statistics

3.0 Effective Term of revision or retirement
Please give reasons in 5.0 “Rationale” in the case of retirement
(Ex. Sept. 2004 = 200409) ☑ Retirement

Term: 200701

4.0 Existing Credit Weight

54 credits

4.1 Proposed Credit Weight

5.0 Rationale for revised program

This program is being replaced by the “Major in Mathematics” program. It therefore needs to be retired. This has come in response to the changing needs of the Desautels Faculty Management who lately introduced new changes in their management core.

6.0 Revised Program Description (Maximum 150 words)

See Next Page!
7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

8.8.7 Major in Mathematics for Management Students

Adviser: Professor D. Leisen, Department of Mathematics and Statistics, Faculty of Science

This Major is comprised of 54 credits of Mathematics and related courses (15 credits of which are counted as Core credits). It provides students in Management with a sound mathematical basis for the understanding of the modern concepts of Management Science. These require a good knowledge of advanced calculus, analysis, linear algebra and statistics. Current research in various branches of Management Science also requires considerable training in mathematics.

Since management is, in part, a sequential decision making process, a good manager needs to be able to devise optimal strategies in a systematic and scientific way. Courses in stochastic processes, optimization, etc., will help to reinforce such skills.

Students entering the Major program in Mathematics are normally expected to have completed MATH 133, MATH 139 or MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the credits specified in the Major. Students entering the 120-credit Management program would take these courses in place of MATH 130 and MATH 131 in U0, counting 6 credits as Freshman Program credits and the remaining credits as Freshman Complementary.

Required Courses
(30 credits)

<table>
<thead>
<tr>
<th>Subj Code/Crse Num</th>
<th>Title</th>
<th>Credit weight</th>
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<tbody>
<tr>
<td>MATH 222</td>
<td>Calculus 3</td>
<td>(3)</td>
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<tr>
<td>MATH 235</td>
<td>Algebra 1</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 236</td>
<td>Algebra 2</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 242</td>
<td>Analysis 1</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 243</td>
<td>Analysis 2</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 314</td>
<td>Advanced Calculus</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 315</td>
<td>Ordinary Differential Equations</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 316</td>
<td>Complex Variables</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 323*</td>
<td>Probability</td>
<td>(3)</td>
</tr>
<tr>
<td>MATH 324*</td>
<td>Statistics</td>
<td>(3)</td>
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</table>

Note: Due to recent changes to the Management Core, students should consult with the Major adviser for program clarification.

\* credits for these courses are counted in the Core, where they replace MGCR 271 and MGCR 272.

Complementary Courses
(24 credits)

<table>
<thead>
<tr>
<th>Subj Code/Crse Num</th>
<th>Title</th>
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<tbody>
<tr>
<td>MATH 317</td>
<td>Numerical Analysis</td>
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<tr>
<td>MATH 343</td>
<td>Discrete Mathematics and Applied Algebra</td>
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</tbody>
</table>

plus 12 credits selected from courses offered by the Department of Mathematics and Statistics.

The additional 9 credits in Mathematics or related disciplines which complete the Major are fulfilled by Core courses MGCR 331, MGCR 373, MGCR 472.

Note:
Due to COMP 202, which is prerequisite to both MATH 317 and MATH 343, this Major requires 93 credits to complete.
### 8.0 Consultation with Related Units

- **Yes**
- **No**

**Financial Consult**

- **Yes**
- **No**

Attach list of consultations

### 9. Approvals

<table>
<thead>
<tr>
<th>Routing Sequence</th>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>Department</td>
<td>D. Wolfson</td>
<td></td>
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<td>Curric/Acad Committee</td>
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Submitted by

- **Name**
- **Phone**
- **Email**
- **Submission Date**

To be completed by ARR:

- **CIP Code**