

UC 1064109F

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# Department of Mathematics Memorandum

Approved

Date: September 15, 2009  
To: Ian Evans, Associate Dean, NS&M  
From: Charles Peters, Director of Undergraduate Studies  
RE: Bachelor of Science in Mathematics – Option in Mathematical Finance

~~\_\_\_\_\_~~ 13 Oct '09

The Department of Mathematics seeks approval for the following degree requirement changes to the Option in Mathematical Finance under the B.S. degree.

1. Reduce the number of advanced semester hours in Mathematics from 36 to 33.
2. Eliminate the requirements for MATH 3363 and MATH 3364.

The number of hours required for the degree is 120. Catalog changes are as follows.

Students who choose to major in mathematics with the Option in Mathematical Finance must complete the following requirements in addition to the special requirements for the Bachelor of Science degree:

Requirements	Hours
Mathematics	
MATH 3330, 3331, 3333, 3334 or 3335 or 3364, 3338, 3339, 3340, 4320, 4380 and 4389	
A minimum of 12 semester hours of 4000-level mathematics, excluding senior research, senior thesis, and special problems courses.	33
Accounting	
ACCT 2331, 2332	6
Economics	
ECON 3332, 3334	6

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**Suggested Program -  
Bachelor of Science in Mathematics- Option in  
Mathematical Finance**

**First Year**

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Fall Semester	Hours
<u>MATH 1431</u> . Calculus I	4
<u>ENGL 1303</u> . Freshman Composition I	3
<u>HIST 1377</u> . The United States to 1877	3
<u>POLS 1336</u> . U.S. and Texas Constitutions and Politics	3
Natural Science with lab (Must be approved for minors in the discipline. Students must have two labs in the same subject.)	4
<b>Total</b>	<b>17</b>

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Spring Semester	Hours
<u>MATH 1432</u> . Calculus II	4
<u>ENGL 1304</u> . Freshman Composition II	3
<u>HIST 1378</u> . The United States Since 1877	3
<u>POLS 1337</u> . U.S. Government: Congress, President, and Courts	3
Natural Science with lab (Must be approved for minors in the discipline. Students must have two labs in the same subject.)	4
<b>Total</b>	<b>17</b>

## Second Year

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Fall Semester	Hours
<u>MATH 2331</u> . Linear Algebra	3
<u>MATH 2433</u> . Calculus III	4
<u>ACCT 2331</u> . Accounting Principles I - Financial	3
<u>ECON 3332</u> . Intermediate Microeconomic Theory	3
Natural Science (Must be approved for majors in the discipline.)	3
<b>Total</b>	<b>16</b>

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Spring Semester	Hours
<u>MATH 3330</u> . Abstract Algebra	3
<u>MATH 3331</u> . Differential Equations	3
<u>ACCT 2332</u> . Accounting Principles II - Managerial	3
<u>ECON 3334</u> . Intermediate Macroeconomic Theory	3
Natural Science (Must be approved for majors in the discipline.)	3
<b>Total</b>	<b>15</b>

## Third Year

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<u>Fall Semester</u>	<u>Hours</u>
<u>MATH 3333</u> . Intermediate Analysis	3
<u>MATH 3338</u> . Probability	3
<u>Visual and Performing Arts Core</u>	3
<u>Humanities Core</u>	3
Elective (Students are strongly encouraged to include Computer Science courses among their electives.)	3
<b>Total</b>	<b>15</b>

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<u>Spring Semester</u>	<u>Hours</u>
<u>MATH 3339</u> . Statistics	3
MATH 3334, 3335, or 3364	3
Electives (Students are strongly encouraged to take courses in Computer Science and to complete a minor in Finance or Economics.)	9
<b>Total</b>	<b>15</b>

## Fourth Year

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Fall Semester	Hours
<u>MATH 3340</u> . Introduction to Fixed Income Mathematics	3
<u>MATH 4320</u> . Introduction to Stochastic Processes	3
<u>MATH</u> Elective at the 4000-level (Students must complete at least 12 hours of 4000-level MATH courses, which must include <u>MATH 4389</u> and 6 hours approved as a Senior sequence.)	3
NSM Capstone (The NSM Capstone requirement may be met by completing a minor in another discipline, completing a Senior Honors Theses, completing <u>MATH 3396</u> ; <u>4396</u> : Senior Research Project, or by completing <u>MATH 3396</u> and <u>4389</u> . Students in the Finance Option are strongly encouraged to complete a minor in Finance or Economics)	3
<b>Total</b>	<b>12</b>

Spring Semester	Hours
<u>MATH 4380. A</u> Mathematical Introduction to Options	3
<u>MATH 4389. Survey of</u> Undergraduate Mathematics	3
NSM Capstone (The NSM Capstone requirement may be met by completing a minor in another discipline, completing a Senior Honors Theses, completing <u>MATH</u> <u>3396; 4396</u> : Senior Research Project, or by completing <u>MATH 3396 and 4389.</u> Students in the Finance Option are strongly encouraged to complete a minor in Finance or Economics)	3
Electives	4
<b>Total</b>	<b>13</b>

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