

RECEIVED MAR 23 2007

Department of Mathematics Memorandum

Date: 3/20/2007

To: Ian Evans, Associate Dean, NS&M

From: Charles Peters, Director of Undergraduate Studies

RE: Bachelor of Science in Mathematics – Option in Mathematical Finance

APPROVED APR 18 2007

The Department of Mathematics seeks approval for a new Option in Mathematical Finance under the B.S. degree. The option does not require an increase in the total number of hours for the degree nor does it require additional faculty to teach it. It does increase the number of advanced hours in MATH to 36. It is distinguished by the following additions to the general requirements for the B.S. degree.

1. MATH 3338, 3339, 3363 and 3364.
2. MATH 3340: *Introduction to Fixed Income Mathematics*.
3. MATH 4320: *Introduction to Stochastic Processes* and MATH 4380: *A Mathematical Introduction to Options*. This will serve as a senior sequence for students in the Finance Option.
4. ACCT 2331: *Accounting Principles I – Financial* and ACCT 2332: *Accounting Principles II – Managerial*.
5. ECON 3332: *Intermediate Microeconomic Theory* and ECON 3334: *Intermediate Macroeconomic Theory*. These will serve as Social Science Core and Writing Intensive Core courses. The Department of Economics has agreed that the strong mathematical background of students in this option will be enough to satisfy the prerequisites.

Students in the new option will be strongly encouraged to minor in either Finance or Economics. The suggested program for catalog inclusion is attached. Page 284 of the current Undergraduate Catalog should be changed to include the following language:

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, 3338, 3339, 3363, 3364,
3340, 4320, 4380 and 4389**

**A minimum of 12 semester hours of 4000-level
mathematics**

36

Accounting

ACCT 2331, 2332

6

Economics

ECON 3332, 3334

6

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

First Year

Fall Semester	Hours
MATH 1431	4
ENG 1303	3
HIST 1376 or 1377	3
POLS 1336	3
Natural Science with lab*	<u>4</u>
Total	17

Spring Semester

Spring Semester	Hours
MATH 1432	4
ENGL 1304	3
HIST 1378 or 1379	3
POLS 1337	3
Natural Science with lab*	<u>4</u>
Total	17

*Must be approved for majors in the discipline. Students must have two labs in the same subject.

Second Year

Fall Semester	Hours
MATH 2433	4
MATH 2331	3
ACCT 2331	3
ECON 3332	3
Natural Science*	<u>3</u>
Total	16

Spring Semester

Spring Semester	Hours
MATH 3330	3
MATH 3331	3
ACCT 2332	3
ECON 3334	3
Natural Science*	<u>3</u>
Total	15

*Must be approved for majors in the discipline.

Third Year	
Fall Semester	Hours
MATH 3333	3
MATH 3363	3
MATH 3338	3
COSC 1410	4
Humanities Core	<u>3</u>
Total	16

Spring Semester	
	Hours
MATH 3364	3
MATH 3339	3
COSC 1320	3
Visual and Performing Arts Core	3
Elective	<u>3</u>
Total	15

Fourth Year	
Fall Semester	Hours
MATH 3340	3
MATH 4320	3
MATH Elective (4000 level)*	3
NSM Capstone**	<u>3</u>
Total	12

Spring Semester	
	Hours
MATH 4380	3
MATH 4389	3
NSM Capstone**	3
Elective	<u>3</u>
Total	12

*Students must complete at least 12 hours of 4000-level MATH courses, which must include MATH 4389 and 6 hours approved as a Senior sequence.

**The NSM Capstone requirement may be met by completing a minor in another discipline, completing a Senior Honors Thesis, completing MATH 3396;4396: Senior Research Project, or by completing MATH 3396 and MATH 4389. Students in the Finance Option are strongly encouraged to take a minor in Finance or Economics.

UH

University of
Houston

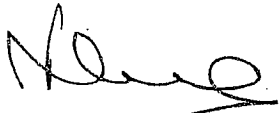
Department of Mathematics
651 PGH
Houston, Texas 77204-3008
TELEPHONE: 713-743-3484
FAX: 713-743-3505

20 July, 2005

To:
Professor Praveen Kumar, Chair
Department of Finance
University of Houston

Some students in our B.Sc. Mathematics – Finance Option degree program may elect to get a Finance Minor, in which case we will require them to take FINA 3332 plus twelve hours of advanced FINA electives. For these students, the Department of Mathematics requests that completion of MATH 3338 (Probability) and MATH 3339 (Statistics) be regarded as fulfillment of the pre-requisite DISC 3331 (Statistical Analysis for Business Applications), which is cited by almost all senior level FINA courses. We will, however, *require* these same students to either take DISC 2373 (a pre-requisite of DISC 3331) or place out of it.

Please indicate your approval of the described request by signing below.



(signature and date)

8/17/05

David ~ I
was able to get
Praveen Kumar's
signature on this.
Frank

From: FWKelley@UH.EDU Mon Oct 30 19:33:36 2006
Date: Mon, 30 Oct 2006 19:36:23 -0600
From: Frank Kelley <FWKelley@UH.EDU>
To: David Bao <bao@math.uh.edu>
Cc: pkumar@uh.edu
Subject: RE: Hello

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David--The version you sent me has everything agreed upon before--the substitution of Cal 1, 2, and 3 for our MATH 1313-1314 and MATH 3338-3339 for our DISC 3331 (stats), and everything else meets our catalog requirements already. When I have shared this with Praveen Kumar in the past he has been fine with these substitutions. For students with a finance minor, they will be able to register without my assistance, but for those who are doing the MATH track with a FINANCE option, but not an officially declared minor, they will need my help. If we get more than one or two per semester in that situation, we should train the finance advisor to assist. In the meantime, you can forward them to me. Frank

-----Original Message-----

From: David Bao [mailto:bao@math.uh.edu]
Sent: Monday, October 30, 2006 7:17 PM
To: fwkelley@uh.edu
Cc: bao@math.uh.edu
Subject: Hello

Hello Frank,

So, did Praveen approve of the latest versions of the Finance Option, one for plain vanilla and one with a Finance Minor? If so, please email me back to that effect, and please add a sentence stating that you will manually remove the blocks for Math students in that program who want to take FINA courses. Then I will give a copy of your email to my chair --- Prof. Jeff Morgan.

All the best,
David

Date: Wed, 4 May 2005 16:26:32 -0500 (CDT)
From: David Bao <bao@math.uh.edu>
To: Rebecca Achee Thornton <rthornton@uh.edu>
Cc: bao@math.uh.edu
Subject: RE: a question

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Hello Rebecca,

Thanks for the feedback.
I will simply keep your response on file,
so that in the future we know how to advise
our students on that matter.

The candidate student for the Finance Option
will have the ability to catch on quickly,
and to efficiently carry out a small amount
of remedial work. So, the glitch you mentioned
can likely be fixed without too much disruption.

David

On Wed, 4 May 2005, Rebecca Achee Thornton wrote:

> Hi David,

>
> This sounds like an interesting option for your students. Technically, we
> do not automatically drop students for not have those pre-requisites. We
> tend to leave it up to each individual instructor and have the student
> approach their professor to make certain it is ok that they remain in their
> Intermediate course without having had Principles. I suspect that most
> students will be fine without them. Quantitatively, your students will have
> no problem. The only possible glitch could be an expectation of basic
> economics (a basic understanding of supply/demand and an ability to catch on
> quickly to models using graphs). So, as long as the student is willing to
> get up to speed on those basics on their own I think they will be perfectly
> fine. Don't hesitate to let me know if you have any problems or further
> questions.

>
>
> _____
> Rebecca Achee Thornton, PhD
> Director of Undergraduate Advising and Affairs
> Department of Economics, University of Houston
> Ph (713) 743-3820; Fax (713) 743-3798
> <mailto:rthornton@uh.edu>

>
>
> -----Original Message-----
> From: David Bao [<mailto:bao@ld38.math.uh.edu>]
> Sent: Tuesday, May 03, 2005 3:47 PM
> To: rthornton@uh.edu
> Cc: bao@math.uh.edu
> Subject: a question

>
>
> Hello Prof. Thornton,

>
> The department of Mathematics has
> designed a Finance Option for its
> B.Sc. majors. Attached please find
> a pdf file with the details.

>
> We require students in the Finance Option
> to take ECON 3332 and 3334 during their
> sophomore year. Do they need formal approval
> from the Economics department to skip
> ECON 2304 and 2305 ? These kids will
> have had first year calculus by the time
> they become sophomores, and those calculus
> classes are definitely solid on
> quantitative training.

>
> Looking forward to hearing from you.

>
> All the best,
> David Bao

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