

From Chunsheng Ban
To College of Arts and Sciences Curriculum Committee
Date December 12, 2007
Subject Changes in Actuarial Science Major



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As a result of Society of Actuaries (SOA) and Casualty Actuaries Society (CAS)'s exam redesign, as well as curricular changes across the campus, it is necessary that we make changes in the requirements to obtain a Bachelor of Science or a Bachelor of Arts in Actuarial Science. We ask for approval by the appropriate committees or sub-committees for these changes.

1. **We propose to expand the required major courses Math 618 and Math 630/631/632 sequence from 3 credit hours each course to 4 credit hours each by adding a significant coverage of topics from financial economics.**

Math 618 covers the material of SOA/CAS's Exam FM/2, and Math 630–632 cover SOA's Exam M. Last year, SOA and CAS added topics from introduction to financial derivatives and their use in risk management and from introduction to the concept of no-arbitrage to Exam FM, and SOA added topics from option pricing and their actuarial applications, hedging, exotic options, and basic stochastic calculus to Exam M. In order to accommodate the additional material, Exam FM has been extended from 2-hour to 2.5-hour, and Exam M has been split into two parts, Exam MLC and Exam MFE. The proposed increase in credit hours for 618 and 630–632 will allow us to cover the additional material.

2. **We propose to replace the major required courses Statistics 520 and 521 by Statistics 420 and 421.**

The Department of Statistics is no longer offering Statistics 520 and 521 which used to be the core statistics requirement of our actuarial science major. They designed new courses 420 and 421 for undergraduate students in general and for actuarial science majors in particular. Stat 420 and 421 have been offered a couple of times, and both instructors and students have given positive feedbacks. We propose to officially replace 520 and 521 by 420 and 421.

3. **We propose to delete Business Finance 640 from the required major courses.**

Business Finance 640 is offered by the Fisher College of Business. It is a business course and is not actuarial science oriented. The material covered in 640 is good knowledge from a business point of view, but it is not required by actuarial professional societies. In addition, 640 offers a very limited number of seats for non-business majors, and very few of our students have actually had a chance to register for this class so far. We have used other 500 or 600-level business or economics courses to substitute for it. Therefore, we propose to remove 640 from the required courses.

The proposed change in 1 will increase the total credit hours of the major by 4, and the change in 3 will decrease the total hours by 4, so the number of hours for the major will remain the

same. The request for change 1 was submitted this past year, and it has been approved by MPS's curriculum committee.

The following documents are attached to support this request:

- ◇ *Major description*
The proposed changes are in blue, and proposed deletion is in red.
- ◇ *Summary page of examination changes from SOA/CAS*
- ◇ *The original request for credit hour increase for 618, 630–632*
- ◇ *New and old syllabus of 618 and 630–632*

We hope the college will approve our request, and we can implement the changes in the 2008-2009 academic year. If any further documentation or explanation is needed, please contact Chunsheng Ban at ban.1@osu.edu or 2-5331.