



## Michigan State University - Office of the Registrar

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Joy Speas, RO		Tuesday, 11/17/2015
<b>Program Name: Actuarial Science</b> <b>Degree: BS      Sequence Number: 3</b>		Program Request ID: 3053
<b>Effective Dates: Fall 2016 - Open      Status: Interim      Initial Action: Change</b>		
<b>Requested Date: 9/8/2015 1:58:49 PM</b>		
<p><b>1. Department/School/College:</b> 32574 .... Department of Mathematics</p> <p><b>2. Name of Program:</b> Actuarial Science</p> <p><b>3. Name of Degree:</b> BS</p> <p><b>4. Type of Program:</b> Major</p> <p><b>5. Effective Start Semester:</b> Prev: Fall 2015 New: Fall 2016</p> <p><b>6. Target student audience for the program:</b> Students desiring careers as actuaries.</p> <p><b>7. Enrollment:</b></p> <p><b>What is the expected enrollment per year:</b> Prev: 60 New: 35</p> <p><b>What is the minimum enrollment acceptable:</b> Prev: 40 New: 20</p> <p><b>8. Source of budget for the program:</b></p> <p>To align academic planning and curricular change, ALL requests for NEW funds must be included in the College's annual planning letter. Provost approval of new funds and the effective date for the new program must align. If funding is not approved, then the program request will not be forwarded to Faculty Senate.</p> <p>Prev: Internal reallocation, College reallocation New: Internal reallocation</p> <p>If new funds, was this request included in the College's annual planning letter? Indicate yes or no. If no, then this is a department or college fund reallocation (If the program is implemented, no additional resources are required.). Prev: New: No new funds are needed for this change.</p> <p><b>9. Projected Costs as compared to other programs in unit:</b> Same</p> <p><b>10. Staff requirement:</b></p> <p>How many additional staff will be required: 0</p> <p>Who will provide the primary instruction. Describe any external linkages(Industry, government, etc.):</p> <p>Prev: current faculty New: All of the following are current faculty: Albert Cohen (Mathematics), Gabor Francsics (Mathematics), Jacob Geyer (Industry), Hyokyoung Hong (Statistics and Probability), Shlomo Leventhal (Statistics and Probability), Darren Mason (Mathematics), Tom McCollum (Mathematics), Mark Schroder (Finance), Yimin Xiao (Statistics and Probability) External professional linkages: City of East Lansing, City of Lansing, Accident Fund Holdings, Auto-Owners Insurance, Farm Bureau Insurance, Jackson National Life, Towers Watson</p> <p><b>11. Will additional equipment be required:</b> Approximate cost: 0</p>		

Source of funding:

**12. Will additional library materials be required:**

Approximate cost: 0

Source of funding: None needed

**13. Will additional space be required:**

Type:

Approximate amount:

**14. If the program requirements contain a named concentration, do you wish for the concentration to be noted on the student's transcript?:**

No

**15. Detailed Description:**

There are no changes to the current degree requirements nor the existing assessment plan.

We wish to add admission requirements to qualify for the BS in Actuarial Science. The following admission requirements would be added.

A. A cumulative GPA of at least 3.0 in all courses taken at MSU.

B. A minimum grade of 3.0 in both MTH 132 and MTH 133 (or equivalent for transfer students).

C. The average of the grades in MTH 360 and STT 441 must be at least 3.0 or better.

~~New students who declare the major in Actuarial Science are automatically reviewed at the end of every semester, and are either admitted or informed of their progress. Students must be admitted to a degree-granting college at the time they have completed 56 credits. Those who do not meet the criteria may consider a major in either Mathematics or Statistics and Probability.~~

New students wishing to major in Actuarial Science would initially choose a major in either mathematics or statistics. Upon completion of the admission requirements they could then petition to have their major changed to Actuarial Science. (This is similar to the system currently used in the College of Engineering.) Those who are not admitted to the major would be in good position to complete either the mathematics or statistics major, or switch to another major of their choosing.

**16. Are there admissions requirements for this program?:**

Grade or grade-point average requirements and if so in which course(s), portfolio requirement, audition, essay, etc. If there are not admission requirements other than those required by the University policy indicate "none".

Prev: No admissions requirements. Open to any MSU student.

New: The grade requirement in point "B" in #15 is to guarantee a certain minimum degree of proficiency with the basic mathematics skills needed for the degree. Similarly, point "C" is to make sure that the student does sufficiently well in two of the initial courses needed for actuaries to indicate aptitude for this area

**17. Type(s) of change(s):**

Academic program admission requirements

**18. Students who will be affected by the proposed changes:**

Students wishing to major in Actuarial Science

**19. Will the proposed change(s) have a negative impact on students? If so, which ones?:**

Describe impact and explain what accommodations will be made: Students denied entry would pursue a degree in Math or Statistics.

**20. Reason(s) for change(s):**

There is a glut of students seeking jobs in the actuarial profession, see <http://casact.org/press/index.cfm?fa=viewArticle&articleID=2874>. Because of the large supply, employers are setting a very high bar for hiring. Usually this includes an overall GPA of at least 3.2, 1-2 student internships of which there are a limited number available, and passing 1-2 actuarial exams. The actuarial program here at MSU needs to produce students who can live up to these expectations so that they can find employment. Adding admissions requirements will help ensure such high standards. Another reason for the change is the goal of the actuarial program to become a Center of Actuarial Excellence (CAE), a designation bestowed by the Society of Actuaries, <https://www.soa.org/cae/>. There are several benefits to becoming a CAE such as the prestige it bestows on the program and its students which will help them in their job searches. One of the criteria to be a CAE is that "the program produces high quality graduates who are in demand by employers." This has to be backed up by data about our students and graduates, placement for internships, success on actuarial exams, and employment records. Raising the admissions requirements will help us make this important step in the recognition of the MSU Actuarial Program.

**DEPARTMENT LEVEL APPROVAL STATUS**

Approved: Department of Mathematics

10/23/2015 2:07:37 PM by Teri Roache for Keith Promislow, Chairperson

Comments: additional edits were made after initial submission and form is re-routing for signoff approval

**SIGNOFFS STATUS**

Signed Off: Department of Accounting and Information Systems  
10/26/2015 10:09:47 AM by Lynn Zelenski for Vallabh Sambamurthy, Chairperson

Signed Off: Department of Computer Science and Engineering  
10/23/2015 2:21:26 PM by Abdol Esfahanian for Matt W. Mutka, Acting Chairperson

Signed Off: Department of Economics  
10/23/2015 2:09:18 PM by Margaret Lynch for Carl Davidson, Chairperson

No Response by: Department of Finance

Signed Off: Department of Statistics and Probability  
10/23/2015 2:25:57 PM by Suzanne Watson for Yimin Xiao, Acting Chairperson

Signed Off: Lyman Briggs College  
10/28/2015 9:02:13 AM by Mark Largent for Elizabeth H. Simmons, Dean

**COLLEGE LEVEL APPROVAL STATUS**

Approved: College of Natural Science  
11/9/2015 2:45:34 PM by Teri Roache for Gerard Mark Volt, Associate Dean



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