REQUEST FOR PROGRAM CHANGE(S)

University of Central Oklahoma

Please note: All information contained in this form will be reviewed by persons outside of your college. Please use clear and concise language when completing this form.

Name of program-major or minor to be changed: (maximum of 30 spaces)
Existing Name: Actuarial Science – Actuarial Science

Proposed Name: (if changing)(maximum of 30 spaces)
*Remember when abbreviating names, this is how they will appear on student's transcripts.

Proposed Name: (full name of program/major if longer than 30 spaces)

Is this a: X Program X Major ___ Minor ___ Sequence of Courses

Proposed change:
___ Name Change
___ Degree Designation
___ Admission Requirement
X Curriculum Change
___ GPA Requirement
X Other: BS/PSM

Is this program:
X Undergraduate ___ Graduate

Is this a teacher preparation program? (All courses required for any teacher preparation program must have approval from the Council on Teacher Education (CTE) before approval from AACC or Graduate Council.)
Yes X No If yes, send copy of proposal to the Director of Teacher Education, Dr. Bryan Duke.

CTE Approval (Stamp or initial)

Mathematics and Statistics
Department submitting the proposal

Evan Lemley elemley@uco.edu 5473
Person to contact with questions email address Ext. number

Approved by:

Date

College Curriculum Committee Chair Date
(Please notify department chair when proposal is forwarded to dean.)

Office of Academic Affairs Date
(Effective term for this program change
Assigned by Academic Affairs)

Academic Affairs Form
May, 2014
Does this program change affect other programs or departments? Yes __ No __

The proposed accelerated degree program pipelines undergraduate students in a program in the Mathematics & Statistics Department into a master's program under CREIC (Computational Research and Education in Interdisciplinary Computation). The Director of CREIC, Evan Lemley, and the Chair of Mathematics and Statistics, Jesse Byrne, discussed this proposal on multiple occasions, the last of which was 01/23/2020, and they agreed to the contents of this proposal.

1. Proposed curriculum change(s):
(Please include entire major/minor as it exists and as it is proposed. Italicize and bold changes.)

<table>
<thead>
<tr>
<th>(Existing Catalog Requirements)</th>
<th>Minimum Required Hours</th>
<th>(Proposed Catalog Requirements)</th>
<th>Minimum Required Hours</th>
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<tbody>
<tr>
<td>Prerequisite Courses</td>
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<tr>
<td>Prerequisite Courses</td>
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<td>Required courses:</td>
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<tr>
<td>*MATH 1533 Precalculus-Algebra OR MATH 1513 College Algebra OR Placement Score AND *MATH 1593 Plane Trigonometry OR Placement Score</td>
<td></td>
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<tr>
<td>*A grade of 'C' or better is required for either MATH 1513 or MATH 1533 and MATH 1593 to take MATH 2313.</td>
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<tr>
<td>Upon completion of the above courses, corresponding university core requirements will be satisfied. (These courses are required for this major regardless of previous degrees conferred.)</td>
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<td>Major Requirements</td>
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<td>Required courses:</td>
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<td>MATH 2753 Technology for Professional Math and Statistics</td>
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<td># MATH 3133 Theory of Interest 1</td>
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<td># STAT 4123 Mathematical Statistics 2</td>
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<tr>
<td>Select from the following:</td>
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</tbody>
</table>
**ACCT 2113 Accounting I**  
**ECON 2103 Principles of Microeconomics**  
**ECON 2203 Principles of Macroeconomics**  
**FIN 3523 Foundations of Insurance and Risk Management**  
**FIN 3553 Property and Liability Insurance for the Firm**  
**FIN 3563 Fundamentals of Business Finance**  
**FIN 3613 Life and Health Insurance**  
**FIN 4253 Intermediate Business Finance**  
**FIN 4213 Investments**

**Area of Application** .................................................. 6

Select from the following:
- MATH 3103 Differential Equations
- MATH 4113 Operations Research 1
- MATH 4123 Operations Research 2
- MATH 4263 Numerical Linear Algebra
- MATH 4363 Applied Numerical Analysis
- MATH 4950 Internship (3 hours)
- STAT 4103 Applied Experimental Design
- STAT 4313 Nonparametric Statistics

* These courses are accredited by the Society of Actuaries to earn Validation by Educational Experience (VEE) credits.

# These courses will help prepare students for the professional examinations administered by the Society of Actuaries. See the Director of Actuarial Studies in MCS 108 for more details.

**Electives to bring total to** ........................................ 124

**Minimum Grade Requirements**

1. Average in (a) all college course work, (b) course work at UCO, and (c) major courses .......... 2.50
2. A minimum grade of "C" must be earned in all courses in the major to count toward meeting degree requirements. For other regulations pertaining to graduation, see pages 66-67 of the 2019-2020 catalog.

**Accelerated BS/PSM**

UCO’s PSM (Professional Science Master’s) in Computational Science has partnered with the BS in Actuarial Science so that approved students may take up to nine credit hours of 5000-level MATH or STAT courses during their senior year of the BS program. These courses will count toward both the BS and PSM degrees. A formal application to the PSM Computational Science program and an approval from the Department of Mathematics and Statistics are required. Requirements are located in the UCO Graduate Catalog under Computational Science - Computational Mathematics, P.S.M.

**Up to nine credit hours of the following courses can be used to satisfy both the B.S. Actuarial Science and the P.S.M. Computational Science - Computational Mathematics**

MATH 5113 Operations Research 1
2. Degree Designation: (Example, B.A. to B.F.A.)
   Existing Designation: NA To: __________

3. Change(s) in Minimum GPA Requirements:
   FROM (Existing Catalog Requirements) TO (Proposed Catalog Requirements)
   NA

4. Change(s) in Admission Requirements for the Program/Major:
   FROM (Existing Catalog Requirements) TO (Proposed Catalog Requirements)
   NA

5. Other requested action:
   NA

6. Will requested change require additional funds? Yes X No
   If yes, please specify the amount of the additional costs, the source of the funds, and how they will be expended over the next three years, including new or re-allocated full or part time faculty/staff.

<table>
<thead>
<tr>
<th>Additional Funds</th>
<th>20</th>
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<th>20</th>
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</thead>
<tbody>
<tr>
<td>Amount of additional costs</td>
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<tr>
<td>Source of funds</td>
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<tr>
<td>How funds will be expended</td>
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</tbody>
</table>

7. Please provide a summary of the requested changes. (This is a listing of the changes requested) (This information will be submitted to the OSRHE)
   These changes will enable students admitted to the proposed accelerated BS/PSM program in this undergraduate major, to take up to nine hours of graduate coursework while seniors. These courses will be used to satisfy the requirements of both this undergraduate program and the PSM program.

8. The reason(s) for this change are based on which of the following: (Check all that apply; explain and document in Question #10)
   ___ Specialized Accreditation
   ___ SSCI (Self Study for Continuous Improvement)
   ___ Benchmark (e.g. comparison to peer institutions)
   ___ Assessment Data
   ___ Faculty Knowledge/Discipline Expertise
   ___ Advisory Board/Outside Professional Group
   X Other

9. For all items checked in Question #9, please provide a concise, yet comprehensive, statement that explains the reasons for requesting the change including any necessary documentation. (The information provided here will be submitted to the OSRHE)
   Discussions with senior UCO students have shown their interest in the proposed accelerated BS/PSM program. In open house and career fairs in which the PSM director has marketed the
PSM program, this is the most common question from UCO students. The proposed changes would clearly ease the pathway to obtaining a master's degree and doing it in less time for UCO students in this undergraduate major.
Thank you for your desire to have an Accelerated Degree Program approved through the Graduate College curriculum review process, which involves a recommendation from the Graduate Council's Curriculum Committee.

Given that Accelerated Degree Programs permit an undergraduate student to enroll in graduate courses and to count the completed graduate courses toward their undergraduate degree, these curriculum proposals are approved through both undergraduate (Academic Affairs Curriculum Committee) and graduate (Graduate Council) curricular processes. The Academic Affairs Curriculum Committee reviews Accelerated Degree Program proposals and makes recommendations to the Graduate Council.

In order for the Graduate Council to review the proposal submitted, this form should be completed and submitted with the undergraduate curriculum proposal. If approved, the information provided below will be used by the Graduate College to develop the Accelerated Degree Program paragraph in the Graduate Catalog degree sheet; a sample Degree Sheet paragraph is provided below.

**Undergraduate Degree Faculty Contact:**
Dr. Jesse Byrne

**Undergraduate Degree Department:**
Department of Mathematics and Statistics

**Name of the Undergraduate Degree in the Accelerated Degree Program:**
Actuarial Science

**Name of the Graduate Degree in the Accelerated Degree Program:**
Computational Science-Computational Mathematics

**Name of the Graduate Program Advisor for the ADP Graduate Degree:**
Evan Lemley
Specific Graduate Courses to Be Counted Toward the Undergraduate and Graduate Degrees:

<table>
<thead>
<tr>
<th>Graduate Course Prefix</th>
<th>Graduate Course No.</th>
<th>Graduate Course Credit Hour</th>
<th>Graduate Course Title</th>
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</thead>
<tbody>
<tr>
<td>STAT</td>
<td>5213</td>
<td>3</td>
<td>Applied Regression Analysis</td>
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<tr>
<td>STAT</td>
<td>5263</td>
<td>3</td>
<td>Computer Applications in Statistics</td>
</tr>
<tr>
<td>MATH</td>
<td>5113</td>
<td>3</td>
<td>Operations Research I</td>
</tr>
<tr>
<td>MATH</td>
<td>5263</td>
<td>3</td>
<td>Numerical Linear Algebra</td>
</tr>
<tr>
<td>MATH</td>
<td>5373</td>
<td>3</td>
<td>Applied Numerical Analysis</td>
</tr>
</tbody>
</table>

_Please Note:_ No more than 10 hours of graduate coursework in an Accelerated Degree Program may be double-counted for both a graduate and undergraduate degree. No undergraduate coursework may be counted toward a graduate degree. All students are required to apply to the Graduate College for ADP admission and are subject to Graduate College policies upon graduate admittance.
Sample Accelerated Degree Program Graduate Catalog Degree Sheet Paragraph

Accelerated Degree Program
Students who are accepted to the undergraduate degree in B.S. Actuarial Science may apply to take [see table of approved 5000-level courses up to a maximum of nine hours] during their senior year of the bachelor's degree. These courses will count toward both the B.S. Actuarial Science and P.S.M. Computational Science – Computational Mathematics. The approved graduate courses are: MATH 5113 Operations Research I, MATH 5263 Numerical Linear Algebra, MATH 5373 Applied Numerical Analysis, STAT 5263 Computer Applications in Statistics, STAT 5213 Applied Regression Analysis. These courses are specified on the degree sheet. During the last semester of their junior year or within 30 hours of graduation, an undergraduate student with a 3.0 overall GPA may apply for admission to the Accelerated Degree Program.