Program Change Request

Date Submitted: 02/23/24 3:47 pm

Viewing: **SC-CERG-ACTS : Actuarial Sciences Graduate Certificate**

Last approved: 06/02/22 3:51 pm

Last edit: 03/01/24 10:17 am

Changes proposed by: jbazaz

Catalog Pages
Using this Program
[Actuarial Sciences Graduate Certificate](#)

Are you completing this form on someone else's behalf?
No

Effective Catalog: 2024-2025

Program Level: Graduate

Program Type: Certificate

Degree Type: Graduate Certificate

Title:
Actuarial Sciences Graduate Certificate

Banner Title: Actuarial Sciences Grad Cert

Registrar/OAPI Use Only – SCHEV Status Approved

Registrar's Office Use Only – Program Start Term Fall 2018

Registrar/OAPI Use Only – SCHEV Letter
[ACTS.pdf](#)

Registrar/OAPI Use Only – SACSCOC

In Workflow

1. **MATH Chair**
2. **SC Curriculum Committee**
3. SC Assistant Dean
4. Assoc Provost-Graduate
5. Registrar-Programs

Approval Path

1. 03/05/24 12:30 pm Maria Emelianenko (memelian): Approved for MATH Chair

History

1. Nov 10, 2017 by clmig-jwehrheim
2. Feb 7, 2018 by rzachari
3. Apr 9, 2018 by rzachari
4. Jan 17, 2019 by Jennifer Bazaz Gettys (jbazaz)
5. Mar 14, 2019 by Tory Sarro (vsarro)
6. Sep 17, 2020 by Tory Sarro (vsarro)
7. Jun 2, 2022 by Tory Sarro (vsarro)

Status

Concentration(s):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Mathematical Sciences

Jointly Owned Program? No

Justification

What: Referring applicants to central admissions language and removing extraneous wording.

Why: To make the program more adaptable to changes in university policies.

Catalog Published Information

Total Credits Required: Total credits: 18

Registrar's Office Use Only - Program Code:

SC-CERG-ACTS

Registrar/IRR Use Only – Program CIP Code 52.1304 - Actuarial Science.

Admission Requirements:

Admissions

University-wide admissions policies can be found in the Graduate Admissions Policies section of this catalog. International students and students having earned international degrees should also refer to Admission of International Students for additional requirements.

To apply for this program, please complete the George Mason University Admissions Application.Interested applicants must submit three letters ofrecommendation.GRE scores are notrequired. Eligibility

Students intending to pursue the Actuarial Sciences Graduate Certificate must have three semesters of calculus, a course in linear algebra (equivalent to MATH 203 Linear Algebra), MATH 203 Linear Algebra), a calculus-based course in probability (equivalent to MATH 351 Probability), MATH 351 Probability), and statistics (equivalent to MATH 352

Statistics). ~~MATH 352 Statistics).~~ Passing the first professional exam, i.e. the SOA Probability Exam, is also sufficient preparation for the certificate program.

Application Requirements

To apply for this program, prospective students should submit the George Mason University Admissions Application and its required supplemental documentation, and three letters of recommendation.
The GRE is not required for admission into this certificate.

Program-Specific Policies:

Policies

For policies governing all graduate certificates, ~~programs,~~ see AP.6 Graduate Policies.

Transferring Previous Graduate Credit into this Certificate

Previously earned and relevant graduate credits may be eligible for transfer into this certificate; details can be found in the Credit by Exam or Transfer section of this catalog.

Degree Requirements:

This certificate may be pursued on a part-time basis only.

Students should refer to the Admissions & Policies tab for specific policies related to this certificate.

Core Courses

MATH 551	Regression and Time Series	3
MATH 553	Advanced Mathematical Statistics in Actuarial Sciences	3
MATH 554	Financial Mathematics	3
MATH 555	Actuarial Modeling I	3
MATH 557	Financial Derivatives	3
MATH 653	Construction and Evaluation of Actuarial Models I	3
Total Credits		18

Preparation for the SOA Exams

The graduate certificate coursework provides preparation for the SOA exams as follows:

MATH 551 Regression and Time Series and MATH 553 Advanced Mathematical Statistics in Actuarial Sciences combined: Statistics for Risk Modeling Exam

MATH 554 Financial Mathematics: Financial Mathematics Exam

MATH 555 Actuarial Modeling I: Long-Term Actuarial Mathematics Exam

MATH 557 Financial Derivatives: Investment and Financial Markets Exam

MATH 653 Construction and Evaluation of Actuarial Models I: Short-Term Actuarial Mathematics Exam

The SOA exams overlap significantly with the Casualty Actuarial Society ("CAS") exams.

Counting Actuarial Courses for Other Mathematics Degrees

A student enrolled in the Actuarial Sciences Graduate Certificate and another graduate degree program in mathematics can count actuarial mathematics courses toward the master's or doctoral degree according to the following rules:

- None of the core actuarial mathematics courses can count toward the Mathematics, PhD
- None of the actuarial mathematics courses MATH 551 Regression and Time Series, MATH 554 Financial Mathematics and MATH 655 Pension Valuation can count toward the Mathematics, MS
- The two actuarial mathematics courses MATH 555 Actuarial Modeling I and MATH 653 Construction and Evaluation of Actuarial Models I, can count toward the Mathematics, MS provided that all other courses counted toward that degree are MATH courses. An exception can be made if the student wishes to count only one of these two courses toward the Mathematics, MS. In this case, at most one other non-MATH course can be counted toward the degree with approval of the graduate coordinator. An additional exception is made if the student has completed the actuarial sciences certificate before being admitted to the MS degree program: in this case, any 4 of the 6 core courses can count toward the MS degree.

Counting Actuarial Courses toward the Statistical Science, MS Degree

A student enrolled in this certificate and in the Statistical Science, MS can count MATH 555 Actuarial Modeling I as an approved non-STAT elective course and can count MATH 653 Construction and Evaluation of Actuarial Models I as a STAT elective when designing a curriculum for this degree. The full curriculum should be designed in consultation with the student's Statistics Department advisor.

Retroactive Requirements Updates:

Plan of Study:

Program Outcomes

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

Indicate whether students are able to pursue on a: Part-time basis

What is the primary delivery format for the program?	Both Face-to-Face and Distance ~~Face-to-Face Only~~

Does any portion of this program occur off-campus?

    No

Are you working with a vendor / other collaborators to offer your program?

    No

**Related
Departments**

**Could this program prepare students for any type of professional licensure, in
Virginia or elsewhere?**

    Yes

Please explain:

 This certificate prepares students for exams needed to become an actuary (certification
 required).

Are you adding or removing a licensure component?

    No

Additional SCHEV & SACSCOC Information

**Is this change a simple retitling of an existing program, with no other changes, to any existing program content,
curriculum requirements, etc?**

No

**Does this change represent a repackaging of content in an existing approved degree/certificate program at the
same instructional level (i.e., baccalaureate, master's, or doctoral)?**

No

**Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as
content that is not currently included in an existing approved degree/certificate program at the same instructiona
level. Do not exclude gen ed credits in calculations for undergraduate programs.)**

0%-24%

Does this change include the addition of a distance education or face-to-face method of delivery for this program?

No

Does this change include the addition of a course/credit-based competency-based education delivery option?

No

Will any additional equipment/facilities be needed?

No

Will any additional faculty be required?

No

Will any additional financial resources be needed?

No

Additional library/learning resources needed?

No

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program?   No

Does this program cover material which crosses into another department?

No

Additional Attachments

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eschtml%

Key: 305