

**UNDERGRADUATE COUNCIL
Request for Change(s)**

Originating unit requesting change: Mathematics

Type of Change requested:

- | | | | | |
|--------------------------|--------------------|--------------------------|------------------------|--|
| <input type="checkbox"/> | Course number(s) | <input type="checkbox"/> | Course prerequisite(s) | |
| <input type="checkbox"/> | Course title | <input type="checkbox"/> | Drop course(s) | <input checked="" type="checkbox"/> Program description |
| <input type="checkbox"/> | Course description | <input type="checkbox"/> | Drop program(s) | <input checked="" type="checkbox"/> Program requirements |

Semester and year change(s) take effect: Spring 2022

Appropriate computer abbreviation if course title is more than 30 spaces:

Briefly summarize the change requested: Change Program Name and modify required courses for degree, including simplifying from two track options down to one.

Current Program Name: Mathematics, BS Actuarial Concentration

Proposed New Program Name: Actuarial Science, BS

Programs Only

Program Name: _____ Mathematics, BS Actuarial Concentration _____

Current Code: _____ Proposed New Code (list 2): _____ or _____
(ex: INDE-BFA)

Can have second major: ___ Yes ___ No

Current CIP Code: ___ 52.1304 Actuarial Science

Does the change require a new or change in CIP code? ___ Yes ___ X ___ No

If yes, what is the proposed CIP code? _____

*for reference, please visit: <https://nces.ed.gov/ipeds/cipcode/resources.aspx?y=56>

Catalog copy

Present catalog copy (paste-up from catalog is acceptable.

Proposed change(s). (Include exact catalog copy as desired. Underline changes)

The catalog changes are attached as a separate

Word file, because the file is several pages.

Request for Changes

Page 2

1. What is the justification for the change(s) requested?

We want to change the degree name to align the name with national standards.

Regarding the request to slightly modify the list of classes in the BS degree our proposal is based on recent changes in the national Society of Actuaries (SOA) curriculum. In brief, the SOA curriculum is now increasing the focus on analytics and applied statistics. The two classes MATH 40853 and MATH 40883 have been recently approved as new courses in our department in response to these curricular trends.

2. If applicable, explain how the change(s) will affect the current program outcomes and assessment mechanisms.

Students in the Actuarial Science BS program will receive instruction and training in an additional component of the national curriculum. The assessment mechanism will remain the same, we can just add one component to the rotating list of items we assess.

3. **Faculty Resources:** How will the unit provide faculty support for this change and any other impact this change may have on other current departmental listings.

Faculty resources will not be affected.

No impact – we had planned a couple of years in advance for the projected changes to the national actuarial curriculum. In particular, our last departmental hire was a faculty member with a PhD in Statistics.

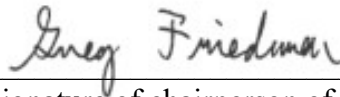
4. **Educational Resources:** Will this change require additional resources not currently available (e.g. space, equipment, library, other)? YES
If yes, list additional resources needed. NO

5. If this change affects other units of the University, include a statement signed by the chairperson(s) of the affected unit(s).

N/A

6. If cross-listed, provide evidence of approval by all curriculum committees appropriate to both the originating and cross-listed units.

N/A



Approval signature of chairperson of originating unit

Current Catalog:

Mathematics, BS Actuarial Concentration

Requirements

Students seeking the BS degree are advised to consider an optional minor in economics. All actuarial students need to work closely with an adviser to plan course schedules.

Credit is not allowed for both [MATH 10283](#) and [MATH 10524](#).

Mathematics Courses

The program of study requires a minimum of 46 hours, with a grade of C- or better, on a 124-hour degree.

MATH 10524	Calculus I	4
MATH 20123	Discrete Mathematics I	3
MATH 20524	Calculus II	4
MATH 30053	Introduction to Mathematical Proof	3
MATH 30224	Linear Algebra	4
MATH 30524	Calculus III	4
MATH 30603	Interest Theory	3
MATH 30623	Interest Theory II	3
MATH 30803	Probability	3
MATH 30853	Statistics	3
MATH 40603	Actuarial Mathematics	3

One of the following two tracks:

	Track 1	
MATH 50253	Abstract Algebra I	3
MATH 50503	Real Analysis I	3
	3 hours of electives 30000 or above	
	OR	
	Track 2	
	3 hours from:	
MATH 40223	Applied Linear Algebra	3
MATH 40663	Numerical Analysis	3
MATH 40853	Regression & Time Series	3
MATH 40883	Predictive Modeling	3
	6 hours of approved electives 30000+	6

Associated requirements (27-32 hours):

ECON 10223	Introductory Microeconomics	3
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ECON 10233	Introductory Macroeconomics	3
ECON 30223	Intermediate Microeconomics	3
OR		
ECON 31223	Intermediate Microeconomics: A Mathematical Approach	3
ECON 30233	Intermediate Macroeconomics	3
ACCT 20353	Fundamentals of Accounting	3
ACCT 40163	Accounting for Decision Making & Control	3
FINA 30153	Financial Management	3

Two of the following:

COSC 20203	Techniques in Programming	3
ECON 31223	Intermediate Microeconomics: A Mathematical Approach	3
ECON 40313	Econometrics	3
PHYS 20474	Physics I with Laboratory: Mechanics	4
PHYS 20484	Physics II with Laboratory: Electromagnetism and Optics	4

NOTE: [ECON 31223](#) can be applied to satisfy associated requirements from two of the above lists.

One of:

COSC 10403	Introduction to Programming	3
COSC 10503	Introduction to Programming for Engineering and Science	3
COSC 10603	Introduction to Python for Data Analytics	3
ENGR 10573	Applied Programming Matlab	3

PROPOSED CATALOG COPY – as it would read

(marked up version of current catalog copy follows this)

BS Actuarial Science

Requirements

Students seeking the BS degree are advised to consider an optional minor in economics. All actuarial students need to work closely with an adviser to plan course schedules.

Credit is not allowed for both [MATH 10283](#) and [MATH 10524](#).

Mathematics Courses

The program of study requires a minimum of 43 hours, with a grade of C- or better, on a 124-hour degree.

MATH 10524	Calculus I	4
MATH 20123	Discrete Mathematics I	3
MATH 20524	Calculus II	4
MATH 30224	Linear Algebra	4
MATH 30524	Calculus III	4
MATH 30603	Interest Theory	3
MATH 30623	Interest Theory II	3
MATH 30803	Probability	3
MATH 30853	Statistics	3
MATH 40603	Actuarial Mathematics	3

At least one of

MATH 40853	Regression & Time Series	3
MATH 40883	Predictive Modeling	3
	6 hours of approved electives 30000+	6

Associated requirements (27-32 hours):

ECON 10223	Introductory Microeconomics	3
ECON 10233	Introductory Macroeconomics	3
ECON 30223	Intermediate Microeconomics	3
	OR	
ECON 31223	Intermediate Microeconomics: A Mathematical Approach	3
ECON 30233	Intermediate Macroeconomics	3
ACCT 20353	Fundamentals of Accounting	3
ACCT 40163	Accounting for Decision Making & Control	3
FINA 30153	Financial Management	3

Two of the following:

COSC 20203	Techniques in Programming	3
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ECON 31223	Intermediate Microeconomics: A Mathematical Approach	3
ECON 40313	Econometrics	3
PHYS 20474	Physics I with Laboratory: Mechanics	4
PHYS 20484	Physics II with Laboratory: Electromagnetism and Optics	4

NOTE: [ECON 31223](#) can be applied to satisfy associated requirements from two of the above lists.

One of:

COSC 10403	Introduction to Programming	3
COSC 10503	Introduction to Programming for Engineering and Science	3
COSC 10603	Introduction to Python for Data Analytics	3
ENGR 10573	Applied Programming Matlab	3

Current Catalog: **mark up for editing**

Mathematics, BS Actuarial Concentration *(delete)* **BS, Actuarial Science** *(insert)*

Requirements

Students seeking the BS degree are advised to consider an optional minor in economics. All actuarial students need to work closely with an adviser to plan course schedules.

Credit is not allowed for both [MATH 10283](#) and [MATH 10524](#).

Mathematics Courses

The program of study requires a minimum of ~~46~~43 hours, with a grade of C- or better, on a 124-hour degree.

MATH 10524	Calculus I	4
MATH 20123	Discrete Mathematics I	3
MATH 20524	Calculus II	4
MATH 30053	Introduction to Mathematical Proof <i>(delete line)</i>	3
MATH 30224	Linear Algebra	4
MATH 30524	Calculus III	4
MATH 30603	Interest Theory	3
MATH 30623	Interest Theory II	3
MATH 30803	Probability	3
MATH 30853	Statistics	3
MATH 40603	Actuarial Mathematics	3

One of the following two tracks: *(delete unit and replace with blue lines below)*

	Track 1	
MATH 50253	Abstract Algebra I	3
MATH 50503	Real Analysis I	3
	3 hours of electives 30000 or above	
	OR	
	Track 2	
	3 hours from:	
MATH 40223	Applied Linear Algebra	3
MATH 40663	Numerical Analysis	3
MATH 40853	Regression & Time Series	3
MATH 40883	Predictive Modeling	3
	6 hours of approved electives 30000+	6

(insert lines)

At least one of

MATH 40853	Regression & Time Series	3
MATH 40883	Predictive Modeling	3
	6 hours of approved electives 30000+	6

Associated requirements (27-32 hours):

ECON 10223	Introductory Microeconomics	3
ECON 10233	Introductory Macroeconomics	3
ECON 30223	Intermediate Microeconomics	3
	OR	
ECON 31223	Intermediate Microeconomics: A Mathematical Approach	3
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ACCT 20353	Fundamentals of Accounting	3
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Two of the following:

COSC 20203	Techniques in Programming	3
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ECON 40313	Econometrics	3
PHYS 20474	Physics I with Laboratory: Mechanics	4
PHYS 20484	Physics II with Laboratory: Electromagnetism and Optics	4

NOTE: [ECON 31223](#) can be applied to satisfy associated requirements from two of the above lists.

One of:

COSC 10403	Introduction to Programming	3
COSC 10503	Introduction to Programming for Engineering and Science	3
COSC 10603	Introduction to Python for Data Analytics	3
ENGR 10573	Applied Programming Matlab	3