10KV0461BSLA: ACTUARIAL SCIENCE, BSLAS

Completed Workflow

1. U Program Review (dforgacs@illinois.edu; eastuby@illinois.edu; aledward@illinois.edu; mhazen@illinois.edu)
2. 1257 Head (verahur@illinois.edu)
3. KV Dean (las-catalog@illinois.edu)
4. Provost (kmartens@illinois.edu; mhazen@illinois.edu)
5. Catalog Editor (dforgacs@illinois.edu)

Approval Path

1. Tue, 02 Jul 2019 21:46:23 GMT
   Deb Forgacs (dforgacs): Approved for U Program Review
2. Wed, 03 Jul 2019 16:04:30 GMT
   Jeremy Tyson (tyson): Approved for 1257 Head
3. Thu, 25 Jul 2019 19:23:39 GMT
   Kelly Ritter (ritterk): Approved for KV Dean
4. Thu, 25 Jul 2019 19:27:04 GMT
   Kathy Martensen (kmartens): Approved for Provost
5. Fri, 23 Aug 2019 15:32:15 GMT
   Deb Forgacs (dforgacs): Approved for Catalog Editor

History

1. Feb 23, 2019 by Deb Forgacs (dforgacs)
2. Aug 23, 2019 by Deb Forgacs (dforgacs)

Date Submitted:Thu, 04 Nov 2021 20:24:06 GMT

Viewing:10KV0461BSLA : Actuarial Science, BSLAS

Changes proposed by: Deb Forgacs

Proposal Type:

Major (ex. Special Education)

This proposal is for a:

Revision

Administration Details

Official Program Name

Actuarial Science, BSLAS

Sponsor College

Liberal Arts & Sciences

Sponsor Department

Mathematics

Sponsor Name

Randy McCarthy, Professor and Director of Undergraduate Studies

Sponsor Email

rmccrthy@illinois.edu

College Contact

Stephen R. Downie

College Contact Email

sdownie@illinois.edu

College Budget Officer

Michael Wellens

College Budget Officer Email

wellens@illinois.edu

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. *Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.*

Alison Champion, abc@illinois.edu

Does this program have inter-departmental administration?

No

Proposal Title

Effective Catalog Term

Fall 2022

Provide a brief, concise description (not justification) of your proposal.

Revision of the BSLAS in Actuarial Science, Department of Mathematics,
College of Liberal Arts & Sciences.

Program Justification

Why are these changes necessary?

We add our own programming course, ASRM 195, to the list of options to fulfill the programming requirement, as well as adding the new CS 124 course at the request of CS, which is phasing out one of the courses currently on the list, CS 125.

We add the statistics sequence STAT 400 & STAT 410 as an alternative to ASRM 401 & ASRM 402. Both sequences teach approximately the same content but in a different order, and the Statistics sequence was commonly substituted in the past by double-majors and students needing ASRM 401 in a term when it's not offered.

This program is one of the top in the nation to prepare students for careers as actuaries and financial risk management consultants. Students are given a background in statistics, financial risk management, and finance. Coursework is specifically designed to prepare students for the series of professional actuarial exams given by the Society of Actuaries and the Casualty Actuarial Society. Students in this program also pursue graduate studies in financial engineering, Statistics, Finance, and Actuarial Science.

This major requires nine 400-level courses for a total of 28-30 credits, 1-3 advanced FIN or ECON classes for a total of 3-9 credits, and 7 credits of 200-level classes which have multiple prerequisites, namely ASRM 210 and Math 241. This adds to a total of 38-46 credits of advanced coursework required specifically for the major. The Advanced Composition course required for general education purposes should bring students to at least 41-49 credits of advanced coursework.

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does the program include other courses/subjects impacted by the creation/revision of this program?

No

Program Regulation and Assessment

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning. (Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable).

Student Learning Outcomes:

1. Have sufficient exposure to actuarial and financial mathematics to be familiar with at least 80% of the material on five of the preliminary Society of Actuaries (SOA) credentialing exams.

2. Be familiar with the role of insurance in society, basic economic theory, and the basics of how insurance and financial markets operate.

3. Have familiarity with several of the technical tools, computer languages or software packages used by actuaries.

4. Develop communication, leadership and teamwork skills, and understand their importance in the actuarial industry.

5. Be able to apply this knowledge and these skills in new combinations and to new problems.

Questions explored towards these ends include:
What is the average number of professional exams passed before graduation?
What is the passing rate of actuarial exams among graduating students?
How many students find full-time jobs or are admitted to graduate schools?

To earn the Society of Actuaries' Center of Actuarial Excellence designation, our program is required to submit an annual report to the SOA that outlines key features of our program. Every five years, our program must submit to a thorough review by the SOA. The annual report contains information that aligns with Learning Outcomes outlined above. The key features included in the annual report include information on:

Curriculum: aligns with learning outcome 1
We must demonstrate that our courses cover 80% of 4 of the 6 preliminary actuarial exams offered by the SOA.

Graduate quality: indirect measure of all learning outcomes
Our program must produce graduates who are in demand by employers.

Integration with other relevant fields: aligns with learning outcomes 2, 3 and 4
Our program must demonstrate a connection to fields such as business and communication through coursework or other activities.

Connection to industry: indirect measure of all learning outcomes
We must demonstrate a connection to industry via recruiting efforts, guest speakers, an advisory board, faculty experience and applied research.

Is the career/profession for graduates of this program regulated by the State of Illinois?

No

Program of Study

"Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: https://www.ibhe.org/assets/files/PrivateAdminRules2017.pdf). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.

All proposals must attach the new or revised version of the Academic Catalog program of study entry. Contact your college office if you have questions.

Revised programs

Actuarial Science BSLAS Curriculum Revision Form.doc
Actuarial Science BSLAS Comparative Table.docx

Attach a side-by-side comparison with the existing program AND, if the revision references or adds "chose-from" lists of courses students can select from to fulfill requirements, a listing of these courses, including the course rubric, number, title, and number of credit hours.

Catalog Page Text - Overview Tab

Text for Overview tab on the Catalog Page. This is not official content, it is used to help build the new catalog page for the program. Can be edited in the catalog by the college or department.

Departmental distinction: To qualify for distinction, the student must have a grade point average in ASRM courses of at least 3.25, and pass at least three examinations offered by the professional actuarial societies. To qualify for high or highest distinction, the student must have passed at least three professional exams, with highest distinction going to those whose grade point averages in mathematics are at least 3.75. Additional professional exams and participation in Illinois Risk Lab research may contribute to distinction decisions.

Statement for Programs of Study Catalog

General education: Students must complete the Campus General Education requirements including the campus general education language requirement.

Minimum required major and supporting course work: normally equates to 57-61 hours including 32-33 hours of actuarial courses beyond calculus. Twelve hours of 300- or 400-level courses in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours. Students will complete 40 hours of upper division coursework (these hours can be drawn from all elements of the degree).

Code	Title	Hours
Calculus through:		11-12
MATH 220	Calculus	

or MATH 221	Calculus I	
MATH 231	Calculus II	
MATH 241	Calculus III (or equivalent)	
Select one of the following:		3-4
ASRM 195	Foundations of Data Management	
CS 101	Intro Computing: Engrg & Sci	
CS 105	Intro Computing: Non-Tech	
CS 124	Introduction to Computer Science I	
CS 125	Introduction to Computer Science	
ASRM 210	Theory of Interest	3
Select one of the following sequences (ASRM preferred):		7-8
ASRM 401 & ASRM 402	Actuarial Statistics I and Actuarial Statistics II	
ASRM 402	Actuarial Statistics II	4
OR		
STAT 400 & STAT 410	Statistics and Probability I and Statistics and Probability II	
ASRM 406	Linear Algebra with Financial Applications	3
ASRM 450	Methods of Applied Statistics	3
Select four of the following:		12-13
ASRM 409	Stochastic Processes for Finance and Insurance	
ASRM 410	Investments and Financial Markets	
ASRM 451	Basics of Statistical Learning	
ASRM 461	Loss Models	
ASRM 469	Casualty Actuarial Mathematics	
ASRM 471	Life Contingencies I	
ASRM 472	Life Contingencies II	
Select an additional course from the above list or an approved section ofASRM 499		3
FIN 221	Corporate Finance	3
Three additional courses from:		9
ACCY 200	Fundamentals of Accounting	
ECON 302	Inter Microeconomic Theory	
ECON 303	Inter Macroeconomic Theory	
FIN 230	Introduction to Insurance	
FIN 300	Financial Markets	
FIN 321	Advanced Corporate Finance	
FIN 431	Property-Liability Insurance	
FIN 432	Managing Fin Risk for Insurers	
FIN 434	Employee Benefit Plans	
Total Hours minimum		**58**
Total Hours		**57-61**

Corresponding Degree

BSLAS Bachelor of Science in Liberal Arts and Sciences

Program Features

Academic Level

Undergraduate

Does this major have transcripted concentrations?

No

What is the typical time to completion of this program?

4 years

What are the minimum Total Credit Hours required for this program?

120

CIP Code

521304 - Actuarial Science.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

Admission Requirements

Desired Effective Admissions Term

Fall 2022

Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

No change to current admission requirements: Freshmen must meet LAS Admissions requirements. On-campus transfer students must complete the calculus sequence as prerequisites, plus ASRM 210 and one of ASRM 401 or STAT 400 with grades of B- or higher in each. Off-campus transfer students must meet LAS transfer requirements and complete at least Calculus II (sophomore transfer) or Calculus III and computer programming (junior transfer) with grades of B or higher in each math course taken.

Describe how critical academic functions such as admissions and student advising are managed.

Admissions are handled by the Office of Undergraduate Admissions for freshmen and off-campus transfers. On-campus transfers are managed through the LAS Student Academic Affairs Office with approval from the Actuarial Science Program. Academic advising is provided by the Math Undergraduate Office with assistance from Actuarial Science Program faculty/staff.

Enrollment

Describe how this revision will impact enrollment and degrees awarded.

No impact.

Estimated Annual Number of Degrees Awarded

What is the matriculation term for this program?

Fall

Budget

Are there budgetary implications for this revision?

No

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget Information

N/A

Financial Resources

How does the unit intend to financially support this proposal?

We anticipate the same resources will be devoted to the revised program as are devoted to the program in its current form.

Will the unit need to seek campus or other external resources?

No

Are you seeking a change in the tuition rate or differential for this program?

No

Resource Implications

Facilities

Will the program require new or additional facilities or significant improvements to already existing facilities?

No

Technology

Will the program need additional technology beyond what is currently available for the unit?

No

Non-Technical Resources

Will the program require additional supplies, services or equipment (non-technical)?

No

Resources

For each of these items, be sure to include in the response if the proposed new program or change will result in replacement of another program(s). If so, which program(s), what is the anticipated impact on faculty, students, and instructional resources? Please attach any letters of support/ acknowledgement from faculty, students, and/or other impacted units as appropriate.

Attach File(s)

Actuarial Science BSLAS STAT Letter Of Support 10-12-21.pdf

Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.

No impact.

Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

Current collections and services are adequate for the proposed program.

EP Documentation

EP Control Number

EP.22.046

This proposal requires HLC inquiry

No

DMI Documentation

Banner/Codebook Name

BSLAS:Actuarial Science -UIUC

Program Code:

10KV0461BSLA

Degree Code

BSLAS

Major Code

0461

Program Reviewer Comments

Deb Forgacs (dforgacs) (Thu, 04 Nov 2021 20:05:40 GMT): Rollback: requested.

Key: 228

ILLINOIS

Proposal for revised curricula (degree, major, concentration, minor)

Submit completed proposals via email to Associate Dean Kelly Ritter (ritterk@illinois.edu). Please obtain Executive Officer and School Director (if applicable) approval via email and forward with the proposal to LAS.

Proposal Title:

Revision of the BSLAS in Actuarial Science, Department of Mathematics, College of Liberal Arts & Sciences.

Proposed effective date: *(Proposals may not be implemented until they go through all necessary levels of approval. Proposed changes may not be publicized as final on any web sites, printed documents, etc. until written confirmation of final approval is issued. For LAS units, a fall semester effective term for all curricula will be requested, please indicate the proposed year).*

Fall 2022

Sponsor(s): *(Please include name, title, and email address of a faculty member knowledgeable about the proposal who will serve as the primary contact for the proposal. This person must be authorized to make changes in the proposal on behalf of the department. In case of multiple units, give information for each unit.)*

Randy McCarthy, Professor and Director of Undergraduate Studies, Department of Mathematics, rmccrthy@illinois.edu

College contact: Stephen Downie, Associate Dean for Curricula and Academic Policy, College of Liberal Arts and Sciences, sdownie@illinois.edu

PROGRAM DESCRIPTION and JUSTIFICATION

1) **Provide a brief description but concise description of your proposal.** For example, if proposing revisions to a curriculum, state specifically what is changing. Where applicable, note whether stated program changes include additional requirements in the form of prerequisite courses. Requests for curriculum revisions must be accompanied by a table which clearly outlines the current requirements and the proposed revisions. This information may be submitted as an appendix. See Appendix A for an example. Please provide pertinent information only*.*

   We add our own programming course, ASRM 195, to the list of options to fulfill the programming requirement, as well as adding the new CS 124 course at the request of CS, which is phasing out one of the courses currently on the list, CS 125.

We add the statistics sequence STAT 400 & STAT 410 as an alternative to ASRM 401 & ASRM 402. Both sequences teach approximately the same content but in a different order, and the Statistics sequence was commonly substituted in the past by double-majors and students needing ASRM 401 in a term when it's not offered.

2) **Provide a justification of the program**, including how your unit decided to create this program, highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.

This program is one of the top in the nation to prepare students for careers as actuaries and financial risk management consultants. Students are given a background in statistics, financial risk management, and finance. Coursework is specifically designed to prepare students for the series of professional actuarial exams given by the Society of Actuaries and the Casualty Actuarial Society. Students in this program also pursue graduate studies in financial engineering, Statistics, Finance, and Actuarial Science.

3) In addition, please provide an answer as to how your undergraduate degree (120 hours of coursework) will satisfy this requirement: IBHE requires that all degree programs contain at least 40 credit hours in upper division courses. Upper division courses have been described as 300- and 400-level coursework and some 200-level courses in which multiple prerequisites are required.

This major requires nine 400-level courses for a total of 28-30 credits, 1-3 advanced FIN or ECON classes for a total of 3-9 credits, and 7 credits of 200-level classes which have multiple prerequisites, namely ASRM 210 and Math 241. This adds to a total of 38-46 credits of advanced coursework required specifically for the major. The Advanced Composition course required for general education purposes should bring students to at least 41-49 credits of advanced coursework.

Is this program interdisciplinary? No

Will specialized accreditation be sought for this program? The Actuarial Science Program as a whole is currently certified as a Center for Actuarial Excellence by the Society of Actuaries.

ADMISSION REQUIREMENTS

1) Desired admissions term: *For LAS units, a fall semester effective term for all curricula will be requested, please indicate the proposed year*

Fall,   2022
Is this revision a change to the admission status of the program? *No*

2) **Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students. (degrees, majors, concentrations ONLY)**

No change to current admission requirements: Freshmen must meet LAS Admissions requirements. On-campus transfer students must complete the calculus sequence as prerequisites, plus ASRM 210 and one of ASRM 401 or Stat 400 with grades of B- or higher in each. Off-campus transfer students must meet LAS transfer requirements and complete at least Calculus

II (sophomore transfer) or Calculus III and computer programming (junior transfer) with grades of B or higher in each math course taken.

3) **Describe how critical academic functions such as admissions and student advising are managed.**

Admissions are handled by the Office of Undergraduate Admissions for freshmen and off-campus transfers. On-campus transfers are managed through the LAS Student Academic Affairs Office with approval from the Actuarial Science Program. Academic advising is provided by the Math Undergraduate Office with assistance from Actuarial Science Program faculty/staff.

ENROLLMENT

1) Describe how this revision will impact enrollment and degrees awarded.

No impact.

2) Estimated Annual Number of Degrees Awarded **(degrees, majors, concentrations ONLY)**

Year 1: 100

Year 5 (or when fully implemented): 100

3) What is the matriculation term for this program?   Fall

4) What is the typical time to completion of this program?   4 years

5) What are the minimum Total Credit Hours required for this program?   120

6) Delivery Method, what is the program's primary delivery method?   Face to Face

BUDGET

1) Please describe any budgetary implications for this revision- addressing applicable personnel, facilities, technology and supply costs.

None

2) Will the revision require staffing (faculty, advisors, etc.) beyond what is currently available? If yes, please describe.

No

3) Please provide any additional budget information needed to effectively evaluate the proposal.

N/A

RESOURCE IMPLICATIONS

1) Facilities- Will the program require new or additional facilities or significant improvements to already existing facilities? If yes, please outline the specific need and Year 1 and Year 5 cost.

No

2) Technology- Will the program need additional technology beyond what is currently available for the unit? If yes, please outline the specific need and Year 1 and Year 5 cost.

No

3) Non-Technical Resources- Will the program require additional supplies, services or equipment (non-technical)? If yes, please outline the specific need and Year 1 and Year 5 cost.

No

RESOURCES

1) Faculty Resources: Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.
None

2) Library Resources: Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.
Current collections and services are adequate for the proposed program.

3) Instructional Resources: Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change? If yes, please describe.
No

4) Does this new program/proposed change result in the replacement of another program? If yes, please specify the program.
No

5) Does the program include any required or recommended subjects that are offered by other departments? If yes, please list the courses. Explain how these additional courses will be used by the program and provide letters of support from the departments.
No changes other than the addition of CS 124, as requested by Computer Science, which is in the process of discontinuing CS 125, a course already listed as one option to fill a major requirement.

FINANCIAL RESOURCES

1) How does the unit intend to financially support this proposal?

We anticipate the same resources will be devoted to the revised program as are devoted to the program in its current form.

2) Will the unit need to seek campus or other external resources? If yes, please provide a summary of the sources and an indication of the approved support.

No

3) Are you seeking a change in the tuition rate or differential for this program? (degrees, majors, concentrations ONLY) *If this program requires a tuition or differential change, initiate a discussion with the LAS curricula contact, LAS budget officer, and LAS Associate Dean.*

No

4) Is this program requesting self-supporting status? (degrees, majors and concentrations ONLY)? If yes, please explain.
No

PROGRAM REGULATION & ASSESSMENT

1) **Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning**. Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable.

Student Learning Outcomes

1. Have sufficient exposure to actuarial and financial mathematics to be familiar with at least 80% of the material on five of the preliminary Society of Actuaries (SOA) credentialing exams.

2. Be familiar with the role of insurance in society, basic economic theory, and the basics of how insurance and financial markets operate.

3. Have familiarity with several of the technical tools, computer languages or software packages used by actuaries.

4. Develop communication, leadership and teamwork skills, and understand their importance in the actuarial industry.

5. Be able to apply this knowledge and these skills in new combinations and to new problems.

Questions explored towards these ends include

What is the average number of professional exams passed before graduation?

What is the passing rate of actuarial exams among graduating students?

How many students find full-time jobs or are admitted to graduate schools?

To earn the Society of Actuaries' Centers of Actuarial Excellence designation, our program is required to submit an annual report to the SOA that outlines key features of our program. Every five years, our program must submit to a thorough review by the SOA. The annual report contains information that aligns with Learning Outcomes outlined above. The key features included in the annual report include information on:

Curriculum: aligns with learning outcome 1

> We must demonstrate that our courses cover 80% of 4 of the 6 preliminary actuarial exams offered by the SOA.

Graduate quality: indirect measure of all learning outcomes

> Our program must produce graduates who are in demand by employers.

Integration with other relevant fields: aligns with learning outcomes 2, 3 and 4

> Our program must demonstrate a connection to fields such as business and communication through coursework or other activities.

Connection to industry: indirect measure of all learning outcomes

> We must demonstrate a connection to industry via recruiting efforts, guest speakers, an advisory board, faculty experience and applied research.

2) Is the career/profession for graduates of this program regulated by the State of Illinois? If yes, please describe.

No

ACADEMIC CATALOG ENTRY

1) All proposals must submit the major requirements (courses, hours) for the proposed curricula. Please see the University of Illinois Academic Catalog- http://catalog.illinois.edu/ for your unit for an example of the entry.

for the degree of Bachelor of Science in Liberal Arts & Sciences, Major in Actuarial Science

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Departmental distinction: To qualify for distinction, the student must have a grade point average in ASRM courses of at least 3.25, and pass at least three examinations offered by the professional actuarial societies. To qualify for high or highest distinction, the student must have passed at least three professional exams, with highest distinction going to those whose grade point averages in mathematics are at least 3.75. Additional professional exams and participation in Illinois Risk Lab research may contribute to distinction decisions.

General education: Students must complete the Campus General Education requirements including the campus general education language requirement.

Minimum required major and supporting course work: normally equates to 58-61 hours including 32-33 hours of actuarial courses beyond calculus.
Twelve hours of 300- or 400-level courses in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours. Students will complete 40 hours of upper division coursework (these hours can be drawn from all elements of the degree).

Code	Title	Hours
Calculus through:		11-12
MATH 220	Calculus	
or MATH 221	Calculus I	
MATH 231	Calculus II	
MATH 241	Calculus III (or equivalent)	
Select one of the following:		3-4
ASRM 195	Foundations of Data Management	
CS 101	Intro Computing: Engrg & Sci	
CS 105	Intro Computing: Non-Tech	

CS 124	Introduction to Computer Science I	
CS 125	Intro to Computer Science	
ASRM 210	Theory of Interest	3
Select one of the following sequences (ASRM preferred):		7-8
ASRM 401 & ASRM 402	Actuarial Statistics I & Actuarial Statistics II	
STAT 400 & STAT 410	Statistics & Probability I and Statistics & Probability II	
ASRM 406	Linear Algebra with Financial Applications	3
ASRM 450	Methods of Applied Statistics	3
Select four of the following:		12-13
ASRM 409	Stochastic Processes for Finance and Insurance	
ASRM 410	Investments and Financial Markets	
ASRM 451	Basics of Statistical Learning	
ASRM 461	Loss Models	
ASRM 469	Casualty Actuarial Mathematics	
ASRM 471	Life Contingencies I	
ASRM 472	Life Contingencies II	
Select an additional course from the above list or an approved section of ASRM 499		3
FIN 221	Corporate Finance	3
Three additional courses from:		9
ACCY 200	Fundamentals of Accounting	
ECON 302	Inter Microeconomic Theory	
ECON 303	Inter Macroeconomic Theory	
FIN 230	Introduction to Insurance	

FIN 300	Financial Markets	
FIN 321	Advanced Corporate Finance	
FIN 431	Property-Liability Insurance	
FIN 432	Managing Fin Risk for Insurers	
FIN 434	Employee Benefit Plans	
Total Hours		**57-61**

2) Include a comparative table of the current and proposed requirements.

Comparative Table of Proposed Changes

Current Requirements		Current Hours	Proposed Requirements		Proposed Hours
Calculus through:		11-12	Calculus through:		11-12
MATH 220 or MATH 221	Calculus Calculus I		MATH 220 or MATH 221	Calculus Calculus I	
MATH 231	Calculus II		MATH 231	Calculus II	
MATH 241	Calculus III (or equivalent)		MATH 241	Calculus III (or equivalent)	
Select one of the following:		3	Select one of the following:		3-4
			ASRM 195	Foundations of Data Management	
CS 101	Intro Computing: Engrg & Sci		CS 101	Intro Computing: Engrg & Sci	
CS 105	Intro Computing: Non-Tech		CS 105	Intro Computing: Non-Tech	
			CS 124	Introduction to Computer Science I	
CS 125	Intro to Computer Science		CS 125	Intro to Computer Science	
ASRM 210	Theory of Interest (formerly MATH 210)	3	ASRM 210	Theory of Interest	3

			Select one of the following sequences (ASRM preferred):		7-8
ASRM 401	Actuarial Statistics I	4	ASRM 401 & ASRM 402	Actuarial Statistics I & Actuarial Statistics II	
ASRM 402	Actuarial Statistics II	4	STAT 400 & STAT 410	Statistics & Probability I and Statistics & Probability II	
ASRM 406	Linear Algebra with Financial Applications (formerly MATH 410)	3	ASRM 406	Linear Algebra with Financial Applications	3
ASRM 450	Methods of Applied Statistics	3	ASRM 450	Methods of Applied Statistics	3
Select four of the following:		12-13	Select four of the following:		12-13
ASRM 409	Stochastic Processes for Finance and Insurance		ASRM 409	Stochastic Processes for Finance and Insurance	
ASRM 410	Investments and Financial Markets (formerly MATH 476)		ASRM 410	Investments and Financial Markets	
ASRM 451	Basics of Statistical Learning		ASRM 451	Basics of Statistical Learning	
ASRM 461	Loss Models (formerly MATH 478)		ASRM 461	Loss Models	
ASRM 469	Casualty Actuarial Mathematics (formerly MATH 479)		ASRM 469	Casualty Actuarial Mathematics	
ASRM 471	Life Contingencies I		ASRM 471	Life Contingencies I	
ASRM 472	Life Contingencies II (formerly MATH 472)		ASRM 472	Life Contingencies II	
Select an additional course from the above list or ASRM 499		3	Select an additional course from the above list or an approved section of ASRM 499		3
FIN 221	Corporate Finance	3	FIN 221	Corporate Finance	3
Three additional courses from:		9	Three additional courses from:		9
ACCY 200	Fundamentals of Accounting		ACCY 200	Fundamentals of Accounting	

[ECON 302](#)	Inter Microeconomic Theory		[ECON 302](#)	Inter Microeconomic Theory	
[ECON 303](#)	Inter Macroeconomic Theory		[ECON 303](#)	Inter Macroeconomic Theory	
[FIN 230](#)	Introduction to Insurance		[FIN 230](#)	Introduction to Insurance	
[FIN 300](#)	Financial Markets		[FIN 300](#)	Financial Markets	
[FIN 321](#)	Advanced Corporate Finance		[FIN 321](#)	Advanced Corporate Finance	
[FIN 431](#)	Property-Liability Insurance		[FIN 431](#)	Property-Liability Insurance	
[FIN 432](#)	Managing Fin Risk for Insurers		[FIN 432](#)	Managing Fin Risk for Insurers	
[FIN 434](#)	Employee Benefit Plans		[FIN 434](#)	Employee Benefit Plans	
Total Hours minimum		**58**	**Total Hours**		**57-61**

Comparative Table of Proposed Changes

Actuarial Science BSLAS

Current Requirements		Current Hours	Proposed Requirements		Proposed Hours
Calculus through:		11-12	Calculus through:		11-12
MATH 220 or MATH 221	Calculus Calculus I		MATH 220 or MATH 221	Calculus Calculus I	
MATH 231	Calculus II		MATH 231	Calculus II	
MATH 241	Calculus III (or equivalent)		MATH 241	Calculus III (or equivalent)	
Select one of the following:		3	Select one of the following:		3-4
			ASRM 195	Foundations of Data Management	
CS 101	Intro Computing: Engrg & Sci		CS 101	Intro Computing: Engrg & Sci	
CS 105	Intro Computing: Non-Tech		CS 105	Intro Computing: Non-Tech	
			CS 124	Introduction to Computer Science I	
CS 125	Intro to Computer Science		CS 125	Intro to Computer Science	
ASRM 210	Theory of Interest (formerly MATH 210)	3	ASRM 210	Theory of Interest	3
			Select one of the following sequences (ASRM preferred):		7-8
ASRM 401	Actuarial Statistics I	4	ASRM 401 & ASRM 402	Actuarial Statistics I & Actuarial Statistics II	
ASRM 402	Actuarial Statistics II	4	STAT 400 & STAT 410	Statistics & Probability I and Statistics & Probability II	
ASRM 406	Linear Algebra with Financial Applications (formerly MATH 410)	3	ASRM 406	Linear Algebra with Financial Applications	3

ASRM 450	Methods of Applied Statistics	3	ASRM 450	Methods of Applied Statistics	3
Select four of the following:		12-13	Select four of the following:		12-13
ASRM 409	Stochastic Processes for Finance and Insurance		ASRM 409	Stochastic Processes for Finance and Insurance	
ASRM 410	Investments and Financial Markets (formerly MATH 476)		ASRM 410	Investments and Financial Markets	
ASRM 451	Basics of Statistical Learning		ASRM 451	Basics of Statistical Learning	
ASRM 461	Loss Models (formerly MATH 478)		ASRM 461	Loss Models	
ASRM 469	Casualty Actuarial Mathematics (formerly MATH 479)		ASRM 469	Casualty Actuarial Mathematics	
ASRM 471	Life Contingencies I		ASRM 471	Life Contingencies I	
ASRM 472	Life Contingencies II (formerly MATH 472)		ASRM 472	Life Contingencies II	
Select an additional course from the above list or ASRM 499		3	Select an additional course from the above list or an approved section of ASRM 499		3
FIN 221	Corporate Finance	3	FIN 221	Corporate Finance	3
Three additional courses from:		9	Three additional courses from:		9
ACCY 200	Fundamentals of Accounting		ACCY 200	Fundamentals of Accounting	
ECON 302	Inter Microeconomic Theory		ECON 302	Inter Microeconomic Theory	
ECON 303	Inter Macroeconomic Theory		ECON 303	Inter Macroeconomic Theory	
FIN 230	Introduction to Insurance		FIN 230	Introduction to Insurance	
FIN 300	Financial Markets		FIN 300	Financial Markets	
FIN 321	Advanced Corporate Finance		FIN 321	Advanced Corporate Finance	
FIN 431	Property-Liability Insurance		FIN 431	Property-Liability Insurance	

FIN 432	Managing Fin Risk for Insurers	FIN 432	Managing Fin Risk for Insurers
FIN 434	Employee Benefit Plans	FIN 434	Employee Benefit Plans
Total Hours minimum	**58**	**Total Hours**	**57-61**

Department of Statistics
Illini Hall, Room 101
725 South Wright Street
Champaign, IL 61820 USA

October 12, 2021

Professor Randy McCarthy
Director of Undergraduate Studies
Department of Mathematics

Dear Randy:

I understand that you propose to add STAT 400/410 as an alternative to the ASRM 401/402 sequence to satisfy the probability and mathematical statistics requirement for actuarial science majors. The Department of Statistics will have seats open for actuarial science majors in both sequences, and we support whichever choice a student makes depending on their particular circumstances. We run multiple sections of both STAT 400 and 410 in the fall and spring, and also offer a section of each in the summer. We will be happy to serve actuarial science majors in STAT 400/410 as well as ASRM 401/402.

Sincerely,

Jeff Douglas
Professor and Associate Chair
Department of Statistics