

Program Change Request

New Program Proposal

Date Submitted: 04/07/17 11:14 am

Viewing: **MATH-CRTU : Actuarial Science**

Last edit: 11/10/17 10:10 am

Changes proposed by: bayer

Academic Career	Undergraduate, Lawrence			
Program Type	Certificate			
Department/ Program	Mathematics			
School/College	College of Lib Arts & Sciences			
Consulting School(s)/College(s)	<table border="1"> <tr><th>School(s)/College(s)</th></tr> <tr><td>College of Lib Arts & Sciences</td></tr> <tr><td>School of Business</td></tr> </table>	School(s)/College(s)	College of Lib Arts & Sciences	School of Business
School(s)/College(s)				
College of Lib Arts & Sciences				
School of Business				
Consulting Department(s)	<table border="1"> <tr><th>Department(s)</th></tr> <tr><td>Economics</td></tr> <tr><td>Business</td></tr> </table>	Department(s)	Economics	Business
Department(s)				
Economics				
Business				
CIP Code	27.0502			
Program Name	Actuarial Science			
Do you intend to offer a track(s)?	No			
Location(s) of Instruction	Lawrence			
Do you intend for this program to be offered online?	No			
Effective Catalog	2018-2019			

In Workflow

- A. CLAS Dean or Associate Dean
- B. Provost's Office
- C. CLAS Undergraduate Program and Course Coordinator
- D. CUSA Subcommittee
- E. CUSA Committee
- F. CAC
- G. CLAS Final Approval
- H. OIRP CIP Approval
- I. Provost's Office
- J. Future Academic Catalog

Approval Path

- A. 10/03/17 8:37 am
Bridget Bradley (bbradley): Approved for CLAS Dean or Associate Dean
- B. 11/06/17 9:59 am
Aileen Ball (aball): Approved for Provost's Office
- C. 11/10/17 10:10 am
Karen Ledom (kjh): Approved for CLAS Undergraduate Program and Course Coordinator
- D. 11/10/17 10:11 am
Karen Ledom (kjh): Approved for CUSA Subcommittee
- E. 11/15/17 9:33 am

Rachel
Schwien
(rschwien):
Approved for
CUSA
Committee

Program Description

This 12 credit undergraduate certificate will prepare students majoring in different programs to enter the actuarial field. The program requires four upper division courses from an approved list. Included are courses that prepare students for two actuarial exams and other courses that satisfy the Validation by Educational Experience requirements of the Society of Actuaries.

Demand/Need for the Program

There is significant interest among undergraduate students, particularly those majoring in mathematics or economics, in pursuing a career in actuarial science. This is reflected in enrollment in MATH 630 Actuarial Mathematics, which has had an average enrollment of 25 in the last six years. (Before then it was offered under a topics course number.)

Comparative/Locational Advantage

Washburn University is the one university in Kansas on the Society of Actuaries list of "Universities and Colleges with Actuarial Programs." The undergraduate Actuarial Science program is a track within the bachelor's in mathematics.

Kansas State University has an Actuarial Mathematics Program. It does not result in a major, minor or certification, but is a recommended selection of courses in the mathematics major.

The following universities in the region offer actuarial programs recognized as "Centers of Actuarial Excellence" by the Society of Actuaries: University of Iowa, Bachelor's of Science in Actuarial Science from the department of Statistics and Actuarial Science; University of Nebraska, Bachelor of Arts or Bachelor of Science in Actuarial Science, from either the College of Arts & Sciences or the College of Business Administration, housed in the Finance Department; Drake University, Bachelor's in Actuarial Science from the College of Business and Public Administration.

The courses we propose for the certificate program are well-established courses, taught for years with significant enrollment. We are well-positioned to offer a certificate program based on these courses. Completion of the certificate program will put our students in a competitive position in the field of actuarial science.

Admission Requirements none

Degree Requirements

The Actuarial Science certificate requires completion of the following 12 hours:		
MATH 627 or MATH 727	Probability Probability Theory	3
MATH 630	Actuarial Mathematics	3
Choose two courses from this list: (6)		6
MATH 526	Applied Mathematical Statistics I	
MATH 628	Mathematical Theory of Statistics	
MATH 728	Statistical Theory	
MATH 611	Time Series Analysis	
ECON 526	Introduction to Econometrics	
ECON 715	Elementary Econometrics	
FIN 310 or FIN 311	Finance Finance, Honors	

Faculty Profile

Name of Faculty and Rank	Highest Degree	Number of Faculty FTE
Tyrone Duncan, Professor	PhD	.4
Zsolt Talata, Associate Professor	PhD	.5
Bozena Pasik-Duncan, Professor	PhD	.2
Other tenured and tenure-track faculty teach relevant courses,	PhD	.2

which are part of our regular curriculum.\n

Student Profile

Anticipated student enrollment

	Full Time	Part Time	Total
Year 1	10	0	10
Year 2	15	0	15
Year 3	20	0	20

Anticipated number of program graduates

After 5 Years	30
After 7 Years	42

Academic Support

No additional academic support is needed. The undergraduate certificate uses courses that we are already offering on a regular basis.

Facilities and Equipment

No additional facilities and equipment are needed. The undergraduate certificate uses courses that we are already offering on a regular basis.

Program Review, Assessment, Accreditation

We will collect data on the completion rate of the certificate requirements, on the success of the students in the Actuarial Exams (Probability and Financial Mathematics) and on the placement of graduates in actuarial positions. From this we will determine if changes need to be made in the courses. Once the certificate has been established we can apply to the Society of Actuaries to have the University of Kansas listed as a University with Actuarial Program.

Costs, Financing

	Salaries	OOE	Equipment	Other	TOTAL
Year 1	0	0	0	0	0
Year 2	0	0	0	0	0
Year 3	0	0	0	0	0

What is the source of the new funds?

No new funds are needed. The undergraduate certificate uses courses that we are already offering on a regular basis.

Rationale for proposal

This program will highlight students' background for pursuing careers in actuarial science, which many Mathematics and Economics majors already obtain. Since MATH 627 Probability and MATH 630 Actuarial Mathematics help to prepare students for actuarial exams, these are required for the certificate. Students can select from courses MATH 605, MATH 611, ECON 526 and FIN 310, which are approved by the Society of Actuaries as contributing to actuarial credentials, as well as statistics courses.

Additional Information

This certificate program has been approved by the Mathematics Department. We have consulted with Economics and Business, which agree to have their courses included. MATH 526, ECON 526, ECON 715 and FIN 310 are offered every semester. MATH 627, 628, 630, 727, and 728 are offered once per year. MATH 605 and 611 are each offered twice every three years.

Supporting Documents

Program Reviewer Comments

Bridget Bradley (bbradley) (09/11/17 1:59 pm): Sent to Dean Lejuez for 1st approval on 9.11.17
Bridget Bradley (bbradley) (10/03/17 8:37 am): Approved to move forward to Provost's office and CUSA subcommittee by Carl Lejuez.
Christopher Anderson (cwanders) (11/06/17 10:16 am): FIN 310 Finance and FIN 311 Finance (Honors) are substitutes for each other. Perhaps they should not be listed separately on a list from which two (2) courses must be selected.

Karen Ledom (kjh) (11/10/17 10:10 am): As a part of the consultation process, the Chair of Economics noted that although MATH 628 and MATH 728 are different courses, there are enough similarities that perhaps the department should reconsider whether both can fulfill the two course requirement in the same area.

Key: 568



Program Change Request

New Program Proposal

Date Submitted: 02/21/17 4:14 pm

Viewing: **PHIL-CRTU : Logic and Formal Reasoning**

Last edit: 09/11/17 1:58 pm

Changes proposed by: c950m757

Academic Career Undergraduate, Lawrence
Program Type Certificate
Department/Program Philosophy
School/College College of Lib Arts & Sciences

Consulting School(s)/College(s)

Consulting Department(s)

Department(s)
Electrical Engr & Computer Sci
Mathematics
Economics

CIP Code

Program Name Logic and Formal Reasoning

Do you intend to offer a track(s)?

No

Location(s) of Instruction Lawrence

Do you intend for this program to be offered online?

Yes

Other Resources

[Describe Other Resources](#)

Some courses may be available online. For example, PHIL 310 is occasionally offered online, with instruction primarily via Blackboard.

Effective Catalog 2018-2019

In Workflow

A. CLAS Dean or Associate Dean

B. Provost's Office

C. CLAS Undergraduate Program and Course Coordinator

D. CUSA Subcommittee

E. CUSA Committee

F. CAC

G. CLAS Final Approval

H. OIRP CIP Approval

I. Provost's Office

J. Future Academic Catalog

Approval Path

A. 10/03/17 8:37 am
Bridget Bradley (bbradley): Approved for CLAS Dean or Associate Dean

B. 11/06/17 10:01 am
Aileen Ball (aball): Approved for Provost's Office

C. 11/10/17 9:58 am
Karen Ledom (kjh): Approved for CLAS Undergraduate Program and Course Coordinator

D. 11/10/17 10:01 am
Karen Ledom (kjh): Approved for CUSA Subcommittee

E. 11/15/17 9:33 am

Rachel
Schwien
(rschwien):
Approved for
CUSA
Committee

Program Description

The certificate in Logic and Formal Reasoning will provide students with the opportunity to engage in a series of courses unified around the idea that logic and formal reasoning is a general skill, useful in a wide variety of academic contexts and applications. We have several courses in the Philosophy Department that emphasize this fact, and we believe that a certificate program will help students to seek courses in other departments that share this view. In consultation with the departments mentioned, students can complete a program with enough range to satisfy their individual interests while remaining specific enough to ensure that students who complete the certificate will be well-versed in particular, formal methods.

Demand/Need for the Program

A large number of philosophy students from both PHIL 148 and PHIL 310 have expressed interest in taking more courses that deal with logic and formal reasoning. When consulting other departments about the possibility of this certificate, we were met with enthusiastic responses. Additionally, we believe range of courses sufficient to satisfy the certificate will be appealing to both students who are primarily focused or majoring in philosophy, as well as students who are interested in an interdisciplinary approach to completing the program.

Comparative/Locational Advantage

We are unaware of any comparable programs in the state. Virtually all philosophy departments offer formal logic, but none in the region offer an interdisciplinary program focusing on logic and formal reasoning.

Admission Requirements As a certificate program, the certificate will be available to any student who is able to complete the courses.

Degree Requirements

The rationale is that requirement 1 is an introductory course, requirement 2 is a necessary symbolic logic course, and requirement 3 comprises two advanced courses.

Introductory Course - choose one of the following (or another by permission):	
EECS 210	Discrete Structures
MATH 450	Discrete Mathematics
PHIL 148	Reason and Argument
Symbolic Logic	
PHIL 310	Introduction to Symbolic Logic
Advanced Course - choose two of the following courses (or others by permission):	
MATH 500	Intermediate Analysis
MATH 558	Introductory Modern Algebra
PHIL 610	Symbolic Logic
PHIL 666	Rational Choice Theory
ECON 590	Game Theory

Faculty Profile

Name of Faculty and Rank	Highest Degree	Number of Faculty FTE
Corey Maley, Assistant Professor	Ph.D.	1

Student Profile

Anticipated student enrollment			
	Full Time	Part Time	Total
Year 1	5	0	5
Year 2	5	0	5
Year 3	5	0	5

Anticipated number of program graduates	
After 5 Years	5

Anticipated number of program graduates	
After 7 Years	10

Academic Support

None

Facilities and Equipment

None

Program Review, Assessment, Accreditation

None

Costs, Financing

	Salaries	OOE	Equipment	Other	TOTAL
Year 1	0	0	0	0	0
Year 2	0	0	0	0	0
Year 3	0	0	0	0	0

What is the source of the new funds?

None

Rationale for proposal

We hope to provide students with an interest in formal logic and reasoning the opportunity to have a university-recognized, potentially interdisciplinary mechanism to pursue their interest using the resources from several different departments.

Additional Information

Supporting Documents

[Email support from EECS_for Logic and Formal Reasoning Certificate.pdf](#)

[Email support from MATH_for Logic and Formal Reasoning Certificate.pdf](#)

[Email support from ECON_for Logic and Formal Reasoning Certificate.pdf](#)

Program Reviewer Comments

Bridget Bradley (bbradley) (02/21/17 3:46 pm): Sending back to department for specific course requirements. Even though this is not a degree. The degree requirements parts is need so that we know how students will complete certificate.

Bridget Bradley (bbradley) (02/21/17 3:47 pm): Rollback: Hi Corey - I'm sending this back since we will need to see specific course requirements under the degree requirements box. I know it is confusing since it is called "degree" requirements but that is where you will list the class requirements. Please let me know if you have any questions! Bridget

Bridget Bradley (bbradley) (09/11/17 1:58 pm): Sent to Dean Lejuez for 1st approval on 9.11.17

Bridget Bradley (bbradley) (10/03/17 8:37 am): Approved to move forward to Provost's office and CUSA subcommittee by Carl Lejuez.

Key: 565

