



Undergraduate Program Actuarial Science



The University of Iowa offers a B.S. Program in Actuarial Science

The Actuarial Science program prepares students for careers as actuaries. It helps them learn material that is included in professional examinations administered by the Society of Actuaries, which actuarial students must pass in order to achieve professional status. In addition to actuarial science courses, students can take courses in preparation for business aspects of the actuarial profession such as accounting, law, finance, insurance, and economics. The Society of Actuaries (SOA) has recognized University of Iowa's actuarial science program as a Center of Actuarial Excellence (CAE). There are eight criteria for the designation, including curriculum, faculty composition, graduate quality, connection to industry, and research/scholarship.

For more information contact us at: actuarial-science@uiowa.edu or www.stat.uiowa.edu or 319.335.0712

Sample Schedule

(not including General Education requirements)

Year 1, Fall

- MATH:1850 Calculus I
- CS:1210 Computer Science 1
- ECON:1100 Principals of Microeconomics

Year 1, Spring

- MATH:1860 Calculus II
- MATH:2700 Introduction to Linear Algebra
- ECON:1100 Principals of Macroeconomics

Year 2, Fall

- MATH:2850 Calculus III
- STAT:3100 Introduction to Mathematical Statistics

Year 2, Spring

- MATH:3770 Fundamentals of Properties of Space and Functions I
- STAT:3101 Introduction to Mathematical Statistics II
- ACTS:3080 Mathematics of Finance I
- ACTS:3210 Actuarial Exam FM Prep

Year 3, Fall

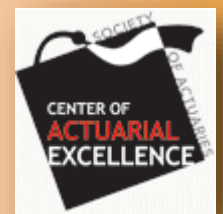
- STAT:4100 Mathematical Statistics I
- ACTS:4130 Quantitative Methods for Actuaries
- ACTS:3110 Actuarial Exam P Prep

Year 3, Spring

- STAT:4101 Mathematical Statistics II
- ACTS:4180 Life Contingencies I
- ACTS:4380 Mathematics of Finance II
- FIN:3300 Corporate Finance (for VEE)

Year 4, Fall

- ACTS:4280 Life Contingencies II
- STAT:4510 Regression, Time Series and Forecasting (for VEE)



The SOA congratulates the Centers of Actuarial Excellence . . .

- The Chinese University of Hong Kong
- Concordia University – Montréal, Québec
- Drake University
- Georgia State University
- Illinois State University
- Pennsylvania State University
- Robert Morris University
- Simon Fraser University
- St. John's University
- Temple University
- Towson University
- Western University
(formerly University of Western Ontario)
- University of Connecticut
- The University of Hong Kong
- University of Illinois at Urbana – Champaign
- University of Iowa
- Université Laval
- University of Manitoba
- University of Michigan
- University of Nebraska – Lincoln
- Université du Québec à Montréal
- University of St. Thomas
- University of Toronto
- University of Waterloo
- University of Wisconsin – Madison





SOCIETY OF ACTUARIES

Article from:

The Actuary Magazine

April/May 2010 – Volume 7 Issue 2



MEET THE CENTERS OF **Actuarial** **Excellence**

BY PEGGY HAUSER AND EMILY KESSLER

THE 13 UNIVERSITIES highlighted here are the first ones to earn the prestigious CAE designation.

The SOA recently named the first 13 Centers of Actuarial Excellence (CAE). These 13 universities applied for this recognition in the summer of 2009, completing a lengthy application that described their curriculum (including opportunities for students to gain broad business skills), faculty, graduate quality, integration within the business community, and research and scholarship. The 13 actuarial science programs recognized are:

- University of Connecticut
- Drake University
- Georgia State University
- Illinois State University
- University of Iowa
- Université Laval
- University of Manitoba

- University of Nebraska–Lincoln
- Robert Morris University
- St John’s University
- Temple University
- University of Waterloo
- University of Wisconsin at Madison

The SOA Board of Directors established the Centers of Actuarial Excellence as part of its commitment to strengthen the academic branch of the profession. Universities represent a source of research and scholarship for the profession that can be better developed and nurtured.

The goal of the CAE program is to identify the actuarial science programs in the United States and Canada that embody a dynamic interaction of instruction, research and scholarship. The SOA will work



with these schools to strengthen actuarial science, primarily through targeted grants in education and research. Schools designated CAE may apply for multi-year grants in education and research. Grants can be for amounts up to \$100,000 per year, for periods up to five years. The SOA will provide one new education and research grant each year, beginning in 2010.



WHAT WE WERE LOOKING FOR

The CAE program set standards to ensure the university could sustain a robust program of education, research and scholarship. CAE schools had to meet four initial quantifiable criteria:

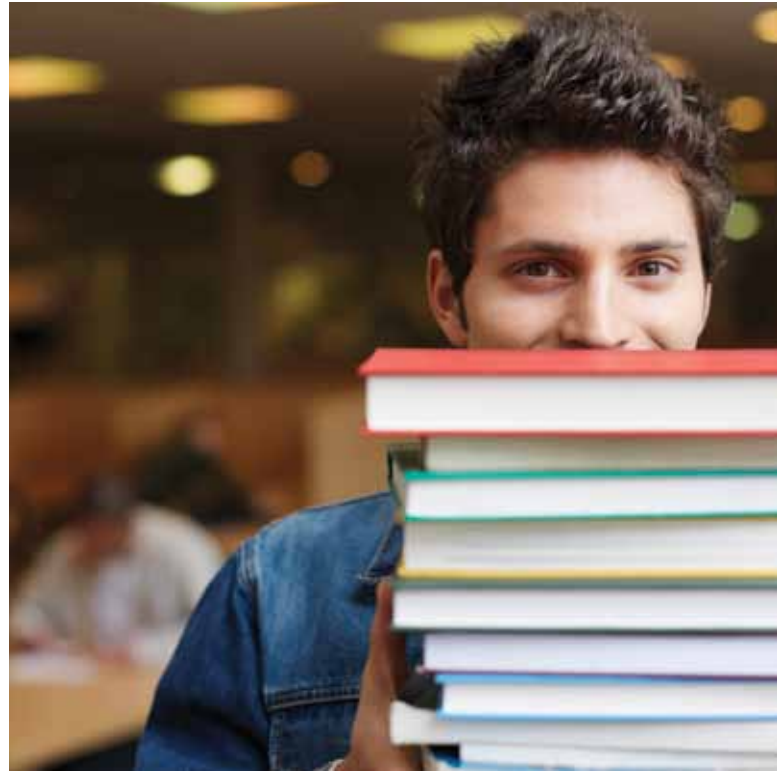
- Offer an actuarial science degree.
- Graduate an average of 10 students per year in all actuarial science degrees (undergraduate and graduate).
- Offer courses that covered 80 percent of the learning objectives in four of the first five examinations (P, FM, MFE, MLC and C) and be approved for all three Validation by Educational Experience (VEE) subjects.
- Have Ph.D.s and actuaries on the faculty; one of the actuaries has to hold a tenured or tenure-track position.

Four other criteria considered qualitative issues:

- The first looked at quality of graduates. We considered how many exams students had upon graduation; how many graduates eventually attained a credential; how many graduates were employed soon after graduation; and whether employers regularly returned to recruit students.
- Another criterion considered how the actuarial science program integrated skills from other fields, particularly busi-

ness and communication skills. We looked at whether the curriculum included team work and case studies; whether students took classes in writing, communication, risk management, accounting and other related topics; and if the program supported students obtaining internships.

- A third criterion considered whether the program was connected to industry. In this case, factors included whether employers returned to recruit students; if there was an active student actuarial science club; if local actuaries came to speak to the club or at other functions; whether there was an active employer advisory council; and if alumni and industry donated to the program.
- Last, but not least, we looked at whether the program contributed to research and scholarship in the profession. Factors included whether the faculty (as a whole) regularly published articles in peer reviewed journals (actuarial science or related topics); published textbooks; and contributed by volunteering to professional organizations (actuarial science or related industries).



As part of the application process, we visited each school to meet the administration (generally the department Chair and Dean), faculty and students. These meetings allowed our site visit team to ask questions and see the program in action. In addition, schools gathered letters of recommendation from local employers and alumni, and some of these employers and alumni were also able to meet the site visit team.



WHAT WE FOUND

The goal of the CAE program was to identify actuarial science programs that do more than prepare actuarial students to pass exams. While passing actuarial exams is extremely important, we know that a well-rounded education enables actuaries to develop into business leaders. These

THE GOAL OF THE CAE PROGRAM WAS TO IDENTIFY ACTUARIAL SCIENCE PROGRAMS THAT DO MORE THAN PREPARE ACTUARIAL STUDENTS TO PASS EXAMS.

CAE schools exemplify the best in actuarial education. We've introduced each school in The Universities Up Close section of this article (See page 12). These introductions can only highlight a few aspects of each program that impressed the site visit team. We've also given an opportunity for the schools to let us know what the CAE designation means to their school.

At each school, the site visit teams were impressed by the quality and dedication of the students, faculty and administration. Time and again, university administrators described the actuarial science program as a crown jewel of their university, based on the quality of students it attracted, the ability of students to move into industry and the strong connections to industry. We found actuarial science programs in both arts and science departments and business schools; within a business school, the actuarial science program is often the cornerstone of a risk management and insurance department.

These programs also exemplify the importance of interdisciplinary education. The CAE programs do more than teach to the syllabus of the SOA and CAS examinations. Each program works to integrate business and communication skills into the program. This integration is done through case studies, research projects, and by finding opportunities for actuarial science students to attend classes offered by other departments. Often the actuarial science program is one of only a few programs that offer students these interdisciplinary opportunities. Actuarial science students are recognized as bringing superior quantitative analysis skills to finance and risk management classes.

We found legions of local employers and alumni spending significant time support-

CAE SCHOOLS EXEMPLIFY THE BEST IN ACTUARIAL EDUCATION.

ing these programs. Through positions as guest speakers, adjunct faculty and advisory board members, actuaries in industry provide oversight and insight to the faculty and students. The employers also stressed the benefits these programs provided; on several occasions, employers stated their company wouldn't exist without strong graduates from the program and the resources the faculty and university provide.

Behind all these accomplishments are strong faculty members. Many faculty members have been at their program for years, establishing long-term relationships with students, alumni, the actuarial profession and the business community. These relationships keep faculty tuned into developments within the profession. Faculty expressed the challenge of both covering the syllabus for the early SOA and CAS examinations and bringing new techniques from the business world into the classroom.

In addition to their teaching, faculty members spend a great deal of time contributing to the research and scholarship supporting the profession. One of the key goals of the CAE initiative is to strengthen the contributions that academics make to actuarial science research. Actuarial science professors at these schools have been regular editors and contributors to the scholarly journals supporting the industry, including *The North American Actuarial Journal*, *Insurance: Mathematics & Economics*, *Journal of Risk and Insurance* and several international actuarial journals. Finally, most have devoted numerous hours in support of the

profession, by volunteering on SOA and CAS examination committees, speaking at meetings, writing research reports and serving on section councils, committees, task forces and boards of the SOA and the other actuarial organizations.



GOING FORWARD

The SOA looks forward to building strong relationships with the CAE schools. We hope to have another group of worthy additions to our CAE school list in mid-June. The 2010 CAE Grants will be announced in May.

The volunteer members and staff who participated in the selection of the CAE are grateful to the department chairs, administrators, faculty members, alumni, employers and students who supported their school in its application process. We appreciate the time you spent building our understanding of the value your program brings to the profession.

The SOA staff and Board also thank the volunteer members (and their employers) involved in the selection of the CAE schools. Six members served on the CAE Evaluation Committee, reading applications, making site visits and selecting the CAE schools: Peggy Hauser (chair), Steven Craighead, Bill Cutlip, Bill Falk, Jeremy Gold and Dale Yamamoto. Louis Lombardi and Sam Cox served as faculty advisors to the committee. The seven-member CAE Site Visit Panel supported the evaluation committee by attending site visits and co-authoring site visit reports: Jon Abraham, Claire Bilodeau, Allan Brender, Ian Duncan, Bill Gooden, Al Klein and Jim Miles.

THE UNIVERSITIES UP CLOSE

University of Connecticut is located near Hartford, Connecticut. The university draws on the talents of actuaries at local insurers and consulting firms to enrich its actuarial science program. Students spoke highly of faculty, many of whom have significant business experience. The university is also home to the Janet and Mark L. Goldenson Actuarial Research Center, which uses the talents of students and professors to produce “academically rigorous actuarial research that serves the needs of the insurance and financial services industry.”

According to Michael Braunstein, ASA, MAAA, assistant director, Actuarial Science Program, “The recognition of the University of Connecticut’s actuarial science program as a Center of Actuarial Excellence is the culmination of vision, ongoing commitment and dedicated effort by a diverse actuarial community of students, faculty, alumni and staff with the consistent and generous support of industry. The success of the program, its research capabilities and its positive impact on every individual involved can only be expected to grow with such acclaim.”

Drake University offers students an integrated actuarial science and business curriculum. In addition to a rigorous education in actuarial science, students must take four one-hour business courses that focus on academic integrity, leadership, ethics, business acumen and practical job search skills. As part of these courses students make 12 professional presentations which are videotaped for review. While its focus is on teaching, faculty have published refereed journal articles and textbooks, and actively partici-

pated in actuarial professional activities. Dr. Charles Edwards, dean of Drake’s College of Business and Public Administration noted, “This recognition is a tribute to the quality of our faculty, students and alumni, as well as our location in Des Moines. It also reflects our commitment to support the insurance industry by providing students with the technical foundation they need to pass the actuarial exams, plus a broad business background and an emphasis on communication skills that prepares them for management and leadership positions.”

Actuarial science at **Georgia State University** is an integral part of the risk management department. The site visit team was impressed with the broad focus that aligns the actuarial science program with risk management and other fields to allow students an engaging learning experience with a strong business focus. The dean spoke proudly of GSU’s Risk Management and Insurance department’s progress in raising the bar on the study of risk management and actuarial science at the university level, including bringing an increased awareness to other GSU departments of the importance of risk management.

Illinois State University’s dean of the Arts and Sciences college praised the actuarial science program for the “extraordinary pass rate of its students on the series of actuarial exams” and the “program’s engagement with the insurance industry both locally and nationally.” Actuarial science students actively participate in the programs and projects of

the Katie School of Insurance and Financial Services; and they regularly interact with actuaries from local insurers. The curriculum for the Katie School is set by a 26-member industry advisory board. “The recognition of Illinois State University as a Center of Actuarial Excellence is an honor and a milestone for our actuarial program,” commented Program Director Dr. Krzysztof M. Ostaszewski, FSA, CERA, MAAA, CFA. “Our program and our university are committed to the highest educational, research and professional standards. Illinois State University was the first public university in Illinois, and has been a leader in education and research since 1857. We have a keen sense of responsibility and obligation to work very hard to be a leader in actuarial education and research.”

University of Iowa’s focus on preparing students for exams and placing them with local employers draws many undergraduate students to the program. Iowa, with one of the oldest actuarial science programs in North America, has produced four SOA past presidents and several highly regarded actuarial educators. In addition, the faculty has published numerous scholarly articles, textbooks and other publications; the Halmstad prize for actuarial research has been awarded to Iowa faculty or graduate students seven times since 1979.

Université Laval is located in the heart of eastern Quebec. Graduates typically have three to four exams passed at graduation, and employer demand is so high that the program has its own placement officer, with a special recruiting session in the second week

of the fall term. While most students come from eastern Quebec, graduates of the Laval program are dispersed throughout Canada and the United States. Upper-level classes regularly include teamwork and projects, and by their final year students can take classes preparing them for different areas of practice. “The teaching of actuarial science at Université Laval dates back to more than 60 years,” noted Dr. Vincent Goulet, director, l’École d’actuariat. “Our graduates work on the five continents in all fields of actuarial practice, many of them in prestigious positions. We take pride in offering stimulating teaching, learning and research environments. The CAE designation is a recognition of the great work accomplished by the generations of faculty and staff, but also a tribute to the quality of our students.”

University of Manitoba’s actuarial science program is located in the Asper School of Business. Actuarial science students can choose a B.Science or B.Commerce degree. Students pursuing a B.Commerce degree lauded the integration of the actuarial science and business curriculum. In addition, the L.A.H. Warren Chair supports research and scholarly activities, including providing opportunities for the school to invite faculty from around the world to visit. Industry actuaries serve on the Warren Chair advisory committee, and the school is in the process of establishing an actuarial science advisory board. Dean Glenn Feltham, from the Asper School of Business, noted, “The Asper School of Business at the University of Manitoba has a long and storied history in actuarial sciences. Many of our graduates have gone on to lead Canada’s and the world’s leading insurance and risk management firms. In providing an outstanding business and actuarial education, our graduates are positioned to be leaders in the profession. The CAE desig-



nation reflects this proud tradition and our dedication to providing an excellent and relevant education.”

University of Nebraska–Lincoln’s strong partnership with industry shows in every aspect of its program. Its active actuarial science club features regular presentations by industry leaders. Since 1957, the Chair Committee, composed of nine industry representatives, has provided advisory and financial support to the actuarial science program. It also provides guidance on curriculum, and recently helped the program develop its mission statement and goals for student learning. Financial support has allowed for the addition of a third faculty position and student scholarships. Dr. Warren Luckner, FSA, CFA, David P. Hayes Memorial Chair in Actuarial Science commented, “The students, faculty and staff of the University of Nebraska–Lincoln are proud to be one of the first actuarial science programs designated as a Center of Actuarial Excellence. This is a recognition of the proud history of actuarial education at Nebraska and

the outstanding contributions that generations of UNL actuarial science students, alumni, faculty and staff have made to the actuarial profession and the financial well-being of individuals, organizations and society.”

With strong support from the business community and university leadership, the actuarial science program at **Robert Morris University** has focused on attracting high quality students to the program and preparing them for jobs with local industry. The dean noted that the program was able to draw students with strong records of academic achievement to RMU. RMU leverages its employer support with an employer advisory board, high school career fair, and has recently entered into a research partnership with a local insurer.

The actuarial science program at **St. John’s University** is housed within the School of Risk Management in the Tobin College of Business. St. John’s mission to serve “aca-




demically strong, economically disadvantaged” youth gives the actuarial science program a diverse student body. Students praised the ability to take rigorous risk management and finance classes in addition to their actuarial science courses. The School of Risk Management’s Board of Overseers provides significant financial support to the school, as well as providing internship, career and mentorship opportunities for students. “We view the CAE designation as a prestigious recognition of the dedication to the actuarial profession that has been a consistent theme of our program for many years,” commented Professor Albert J. Beer FCAS, MAAA. “Our connection to the risk management industry is without peer and the financial support we receive through scholarships for current students and career opportunities for graduates is recognition of the significant contributions our alumni, faculty and administration have made to these grateful companies. We are enormously proud of this award and we share it with everyone in the St. John’s family.”

Temple University’s actuarial science program benefits from the strengths of its school

of risk management and industry and alumni connections. Each Wednesday the school’s Gamma Iota Sigma chapter hosts a speaker from the insurance or financial services industry who discusses risk management topics. On Fridays an additional speaker is brought in just for the actuarial science students. Faculty members focus on both teaching and high quality research, with the dean stressing the importance of publication in top quality academic journals. M. Moshe Porat, the dean of the Fox School, said, “Being named a Center of Actuarial Excellence is a powerful affirmation of our talented and dedicated faculty and staff, motivated students, cutting edge research and a wealth of industry partners. Many of our alumni have assumed significant positions of leadership in the financial services industries, and we are thrilled that our program continues to gain in recognition and reputation.”

University of Waterloo may be best known for its actuarial science co-op program, which allows students to complete six quarters of employment while obtaining their actuarial science degree. The university has a strong research focus. Faculty members produce research articles and textbooks, are editors and associate editors of prestigious research journals, and regularly volunteer in professional activities. The recent establishment of WatRISQ, the Waterloo Research Institute in Insurance, Securities & Quantitative Finance, will increase the ability of the university to support cutting edge actuarial research even further. Dr. Mary Hardy, FSA, CERA, FIA, the CIBC chair in Financial Risk Management, noted, “The Actuarial Science group at the University of Waterloo is delighted to be recognized as a Center of Actuarial Excellence. The CAE initiative is a significant acknowledgement of the importance to the profession of maintaining an academic foundation, underpinning and supporting actuarial practice. The Waterloo actuarial faculty will continue to provide

support through research, teaching and professional service, with renewed enthusiasm thanks to this very welcome recognition of our record of contribution.”

The actuarial science program at **University of Wisconsin at Madison** is located within the school of business. Students and professors work with the department’s Co-Curricular Learning Board (made up of local employers) to organize events including the Primary Insurance Management Simulation Exercise and the Actuarial Awareness Night for high school students and undergraduates. An Actuarial Career Fair, organized by the student club and faculty, brings employers and students together. Wisconsin faculty members are also highly recognized for their research and contributions to the profession. “The CAE designation provides objective, professional validation of the strength of the UW–Madison actuarial program,” commented Dr. Marjorie Rosenberg, FSA, department chair. “The CAE program opens a dialog for potential partnership opportunities between our program and industry. Our faculty are experts in predictive modeling and risk management, and provide an alternative perspective for company-specific studies and facilitating continuing education seminars. In addition, the CAE designation recognizes our alumni and current students as recipients of an exemplary actuarial education at UW–Madison.” 

Peggy Hauser, FSA, MAAA, is senior VP, Actuarial Services, Univita Health Inc. She can be contacted at phauser@ltcg.com.

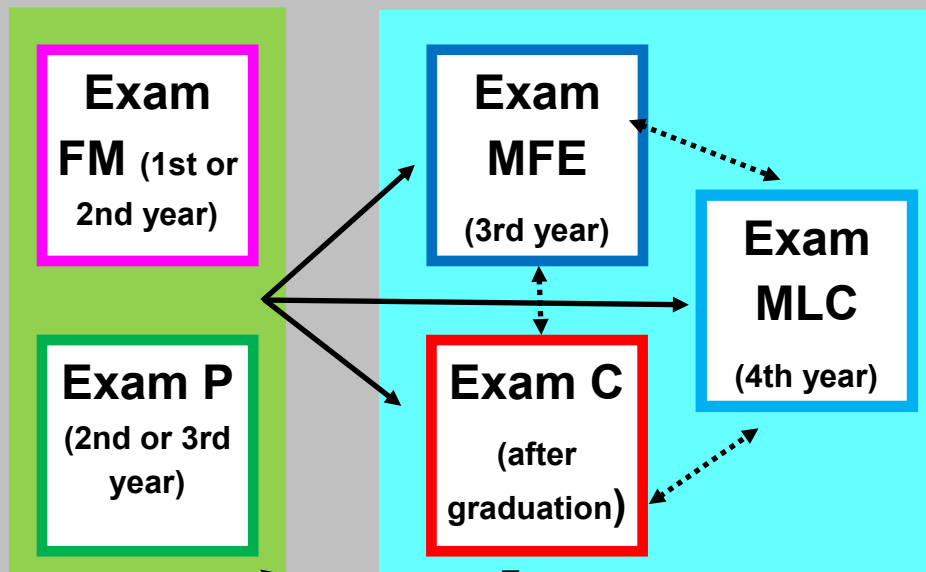
Emily Kessler, FSA, EA, MAAA, FCA, is senior fellow, Intellectual Capital, at the Society of Actuaries. She can be contacted at ekessler@soa.org.

Actuaries

Risk is Opportunity.



Pathway to Membership



- Exam FM: Financial Mathematics
- Exam P: Probability
- Exam MLC: Models of Financial Economics
- Exam MFE: Models for Life Contingencies
- Exam C: Construction and Evaluations of Actuarial Models

VEE– Validation by Educational Experience
Includes courses in Economics, Corporate Finance and Applied Statistics. Required specified grade after passing two exams.

FAP (Fundamentals of Actuarial Practice)
They are e-Learning courses and written assessments. Usually done post graduation.

A Typical Schedule of “Core” Actuarial Courses in the B.S. Program, 9/02/14

Year	Fall Semester	Spring Semester
1	ECON:1100 Principles of Microeconomics (for VEE) CS:1210 Computer Science MATH:1850 Calculus I	ECON:1200 Principles of Macroeconomics (for VEE) MATH:2700 Introduction to Linear Algebra MATH:1860 Calculus II
2	MATH:2850 (22M:028) Calculus III STAT:3100 Introduction to Mathematical Statistics I	MATH:3770 Fundamental Properties of Spaces & Functions I STAT:3101 Introduction to Mathematical Statistics II ACTS:3080 Mathematics of Finance I ACTS:3210 Exam Prep for FM <p style="text-align: right;">Write Exam FM</p>
3	STAT:4100 Mathematical Statistics I ACTS:3110 Exam Prep for P ACTS:4130 Quant Methods for Actuaries <p style="text-align: right;">Write Exam P</p>	STAT:4101 Mathematical Statistics II ACTS:4380 Mathematics of Finance II ACTS:4180 Life Contingencies I FIN:3300 Corporate Finance (for VEE) <p style="text-align: right;">Write Exam MFE</p>
4	ACTS:4280 Life Contingencies II ACTS:4110 Exam Prep for MLC STAT:4510 Regression, Time Series and Forecasting (for VEE) <p style="text-align: right;">Write Exam MLC</p>	ACTS:6480 Loss Distributions ACTS:6580 Credibility and Survival Analysis <p style="text-align: right;">Write Exam C</p>

P= STAT:4100 + ACTS:3110

FM= ACTS:3085 or ACTS:4130 + ACTS:3080

MFE = ACTS:4130 + ACTS:4380

MLC = ACTS:4130 + ACTS:4180 + ACTS:4280 + ACTS:4110

C = STAT:4101 + ACTS:6480 + ACTS:6580

VEE (Validation for Educational Experiences) are SOA requirements- Not exams.

Graduation with Honors in Actuarial Science

Qualified undergraduate students majoring in actuarial science may work toward graduation with honors. Honors students in actuarial science must be members of the University of Iowa Honors Program, which requires that students maintain a cumulative University of Iowa g.p.a. of at least 3.33 (contact the University of Iowa Honors Program for more information). They also must maintain a g.p.a. of at least 3.40 in departmental courses.

To graduate with honors in the actuarial science major, students must complete the following five courses in addition to all courses required for the major.

06F:117 (FIN:3300) Corporate Finance	3 s.h.
22M:100 (MATH:3600) Introduction to Ordinary Differential Equations (or 22M:178)	3 s.h.
22S:150 (STAT:4510) Regression, Time Series, and Forecasting (or 22S:152 and 22S:156)	3 s.h.
22S:176 (ACTS:6580) Credibility and Survival Analysis	3 s.h.
22S:177 (ACTS:6480) Loss Distributions	3 s.h.

An Actuarial Science student planning to graduate with honors **MUST** contact the department prior to classes start in their senior year to review this request.

Department of Statistics & Actuarial Science

Declared Majors – Spring 2015

(February 3, 2015 /me)



Graduate Students

Total Number in Graduate Programs				
		Nationality		
		USA	Int'l	
Gender	M	17	36	53
	F	5	31	36
			22	67

(30 M + 16 F = 46 supported; 13 additional are supported by other department and internships)

PhD Students in Statistics

		Nationality		
		USA	Int'l	
Gender	M	3	7	10
	F	0	4	4
			3	11

(8M + 3 F = 11 supported)

MS Statistics

		Nationality		
		USA	Int'l	
Gender	M	7	10	17
	F	3	9	12
			10	19

(15 M + 10 F = 25 supported)

MS Actuarial Science

		Nationality		
		USA	Int'l	
Gender	M	7	19	26
	F	2	18	20
			9	37

(7 M + 3 F = 10 supported)

Undergraduate Students

Total Number				
		Nationality		
		USA	Int'l	
Gender	M	47	49	96
	F	27	46	73
			74	95

Statistics				
		Nationality		
		USA	Int'l	
Gender	M	26	35	61
	F	24	29	53
			50	64

Declared Actuarial Science				
		Nationality		
		USA	Int'l	
Gender	M	21	14	35
	F	3	17	20
			24	31

Spring 2015:

Statistics Undergrad include: 22 students working on "minor" in Statistics (not included in Statistics Undergrad count)

Subprograms Majors: 80 Math Statistics; 24 Business, Industry Government and Research Track; 10 Computing and Data Track.

Actuarial Science Interest Students: 132; Total interested in Actuarial Science: *55 + 132= 187

Directory of Approved Courses for VEE - by Institution (April 11, 2013)

Course 1	StartYear - End Year	Course 2	Start Year - End Year	Course 3	Start Year - End Year	Approval Code	Grade (other)
U OF IOWA							
<u>Applied Statistical Methods</u>							
22S:152 or STAT 3200	Applied Linear Regression 1993 - 2016	22S:156 or STAT 4510	Applied Time Series Analysis 1974 - 2016			3-1615-0068-2-2016	
22S:164 or STAT 5200	Applied Statistics I 1990 - 2016	22S:156 or STAT 4510	Applied Time Series Analysis 1974 - 2016			3-1615-1007-2-2016	
22S:150 or STAT 4510	Regression, Time Series and Forecasting 1980 - 2016					3-1615-0069-1-2016	
06E:221	Econometrics 1999 - 2012	06E:222	Applied Econometrics 1997 - 2012			3-1615-0795-2-2012	
<u>Corporate Finance</u>							
06F:117	Corporate Finance 1980 - 2013					2-1615-0067-1-2013	
22S:171	Topics in Actuarial Science Corporate Finance 2001 - 2003					2-1615-0888-1-2003	
<u>Economics</u>							
06E:104	Microeconomic Theory 1991 - 2014	06E:105	Macroeconomic Theory 1965 - 2014			1-1615-0066-2-2014	
06E:203	Microeconomics I 1992 - 2008	06E:204	Macroeconomics I 1992 - 2008			1-1615-2026-2-2008	
06E:001	Principles of Microeconomics 1985 - 2014	06E:002	Principles of Macroeconomics 1985 - 2014			1-1615-0065-2-2014	
				Iowa	USA		

Directory of Approved Courses for VEE - by Institution (April 11, 2013)

Course 1	Start Year - End Year	Course 2	Start Year - End Year	Course 3	Start Year - End Year	Approval Code	Grade (other)
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U OF KAISERSLAUTERN

Germany

Applied Statistical Methods

-	Mathematical Statistics 2002 - 2014					3-9119-4657-1-2014	
-	Regression and Time Series Analysis 2000 - 2012					3-9119-3549-1-2012	1.6 or better