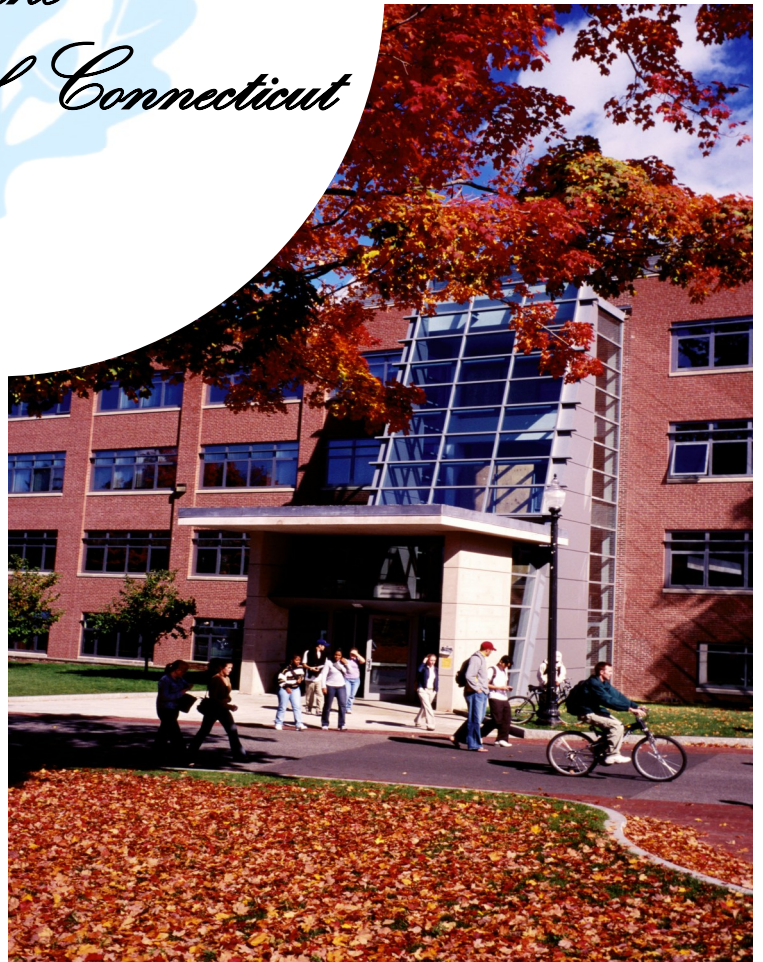




*Actuarial Science Program
at the
University of Connecticut*



What is an actuary?

Although actuarial science was started in England over 200 years ago, it is still a relatively unknown profession. It is multidisciplinary, as evidenced by the following description from the Society of Actuaries, the largest actuarial organization:

An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs. They evaluate the likelihood of those events, design creative ways to reduce the likelihood and decrease the impact of adverse events that actually do occur.

Actuaries are an important part of the management team of the companies that employ them. Their work requires a combination of strong analytical skills, business knowledge and understanding of human behavior to design and manage programs that control risk.

SOA members work in life insurance, retirement systems, health benefit systems, financial and investment management and other emerging areas of practice. The majority of actuaries work within the insurance industry, although a growing number of actuaries work in other fields.

The Society of Actuaries and its sister organization, the Casualty Actuarial Society, created the professional designations: Fellow of the Society of Actuaries (FSA) and Fellow of the Casualty Actuarial Society (FCAS). Both designations carry significant prestige around the world and signify that an individual has been properly trained to practice as an actuary.

To become an FSA or FCAS, a student must pass a series of examinations administered by the actuarial societies. It takes a student approximately five to ten years to achieve these professional designations.

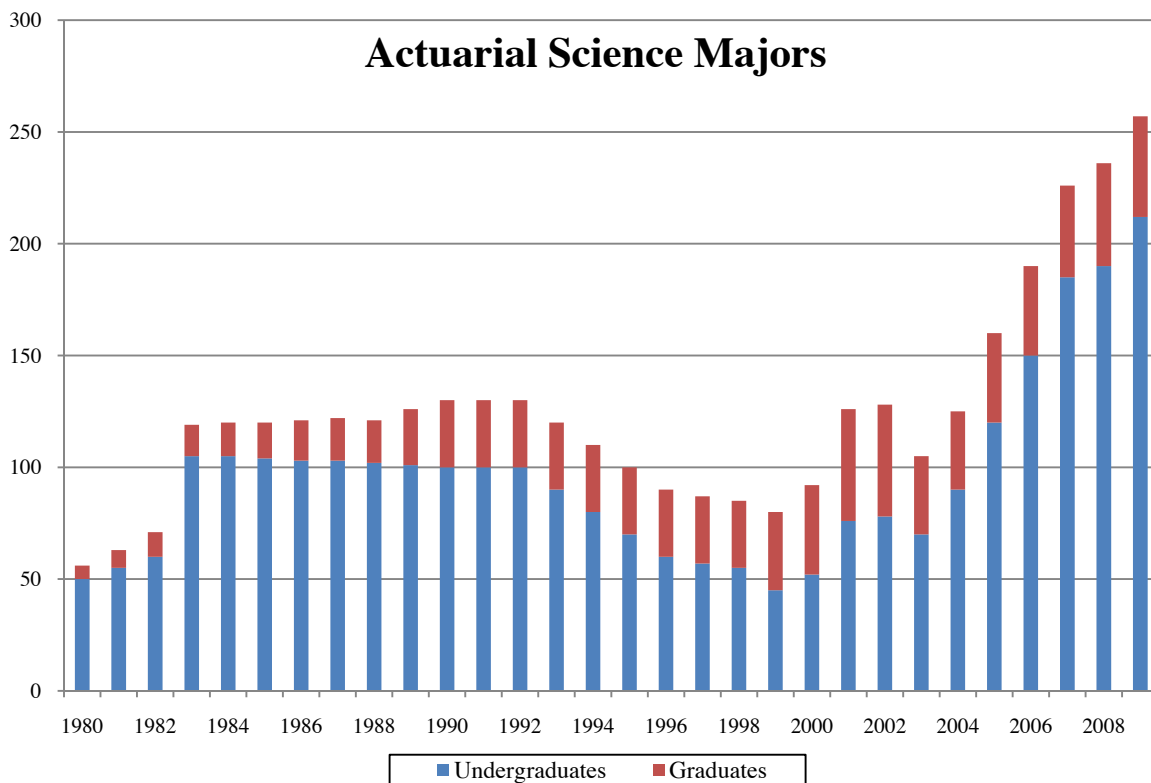
The websites www.soa.org and www.beanactuary.org contain a wealth of information about:

- The Role of an Actuary
- Actuarial Exams
- Career Opportunities

These websites are very useful resources for both high school and college students.

The University of Connecticut Actuarial Science Program began in 1976 with the creation of two new courses – Theory of Interest and Life Contingencies. The department also began administering the professional actuarial exams on campus at that time. From the start, the program grew rapidly and in the spring of 1979, the first majors in mathematics/actuarial science were graduated. In 1984 we added a concentration in actuarial science at the master’s level. As of 2009, we have awarded 6 doctoral degrees in mathematics with a thesis topic in actuarial science. We have also added a Professional Master’s in Applied Financial Mathematics.

The Janet and Mark L. Goldenson Center for Actuarial Research offers students the opportunity to participate in academically rigorous research projects on real-world problems. The center partners top actuarial students and faculty at UConn with actuarial professionals in the insurance and financial services industries from firms in Hartford and the region.



Today, the program has approximately 212 undergraduate students, 40 master’s level students, and 5 students working on a doctoral thesis in actuarial science. We estimate that, since its inception, our program has contributed 600 baccalaureate and 375 master’s graduates to the work force.

The primary goal of our program is to provide students with a sound foundation in actuarial science and to prepare them for the examinations administered by the Society of Actuaries and the Casualty Actuarial Society, with the objective that each student passes at least two exams before graduating.

Recommended Courses

Reflecting the multidisciplinary aspect of the actuarial profession, students majoring in actuarial science are either required or encouraged to take courses from the following departments:

Accounting (ACCT)

- 2001 Principles of Financial Accounting
- 2101 Principles of Managerial Accounting

Economics (ECON)

- 1200 Principles of Economics
- 1201 Principles of Microeconomics
- 1202 Principles of Macroeconomics
- 2201 Intermediate Microeconomics Theory
- 2202 Intermediate Macroeconomics Theory
- 2411 Money and Banking

Finance (FNCE)

- 3221 Risk Management and Insurance or
- 4324 Health insurance
- 4325 Life Insurance and Retirement Security
- 4326 Risk Management: Property and Liability Exposure

Mathematics (MATH): Preliminary

- 1131 Calculus I (1151 Honors)
- 1132 Calculus II (1152 Honors)
- 2110 Multivariable Calculus (2130 Honors)
- 2210 Applied Linear Algebra
- 2410 Elementary Differential Equations (2420 Honors)

Mathematics (MATH): Actuarial Science

- 2194W Pedagogical Seminar
- 2610 Introduction to Actuarial Science
- 2620 Financial Mathematics I
- 3160 Probability
- 3170 Elementary Stochastic Processes
- 3550 Programming for Actuaries
- 3610 Probability Problems (Exam P Preparation)
- 3615 Financial Mathematics Problems (Exam FM Preparation)
- 3621 Applied Actuarial Statistics
- 3630 Actuarial Mathematics I
- 3631 Actuarial Mathematics II
- 3632 Loss Models
- 3634 Actuarial Models
- 3650 Financial Mathematics II
- 3660 Advanced Financial Mathematics
- 3670W Technical Writing for Actuaries

Statistics (STAT)

- 3115 Analysis of Experiments
- 3375 Introduction to Mathematical Statistics I
- 3445 Introduction to Mathematical Statistics II
- 4825 Applied Time Series

Since financial models are utilized extensively by the profession, knowledge of one or more computer languages and facility with a spreadsheet package are also strongly encouraged.

	Fall	Cr	Spring	Cr	Comments
FRESHMAN	MATH 1131/1151(H)	4	MATH 1132/1152(H)	4	
	ECON 1201--CA2	3	ECON 1202/Any	3	Satisfies VEE-Econ; Can sub ECON 1200 (4 cr) for ECON 1201/1202
	ENGL 1010 or 1011	4	GEN ED/W--CA1	3	
	GEN ED/Lab--CA3	4	GEN ED/Non-Lab--CA3	3	Switch Lab/Non-Lab if ECON 1200 is chosen
	INTD	<u>1</u>	COMM 1000--CA2	<u>3</u>	
		16		16	Add 1 credit to Spring if ECON 1200 chosen and "Any" added
SOPHOMORE	MATH 2110/2130(H)	4	MATH 3160	3	M3160 readies for SOA Course P/CAS 1
	MATH 2620	3	MATH 3550	3	M2620 readies for SOA Course FM/CAS 2
	MATH 2210	3	Minor 1	3	Options: MATH 2410/2420(H) or Start of Minor
	ACCT 2001	3	ACCT 2101/ECON 2411	3	Optional: FNCE 4324, 4325, 4326
	GEN ED--CA 1A (DD)	<u>3</u>	MATH 3615/FM Study	<u>1</u>	<u>M3615 readies for SOA for SOA Course FM/CAS 2</u>
		16		13	Study and sit for SOA Course FM/CAS 2
					Study and optionally sit for SOA Course P/CAS 1
JUNIOR	MATH 2610*	3	MATH 3170*	3	M3170 readies for SOA Course MFE/CAS 3F & SOA MLC/CAS 3L
	MATH 3670 W	3	MATH 3660	3	M3660 readies for SOA Course MFE/CAS 3F
	STAT 3375	3	STAT 3445	3	S3375/S3445 ready for SOA Course MLC/3L
	Minor 2	3	MATH 3650	3	M3650 satisfies VEE-Finance
	MATH 3610/P Study	<u>1</u>	GEN ED--CA 1B (DD)	<u>3</u>	<u>M3610 readies for SOA Course P/CAS 1; take if failed 1st attempt</u>
		13		15	Study and sit for SOA Course P/CAS 1 following fall semester
	*Can sub FNCE 3221/4325		*Same as STAT 3965 in fall		Study and sit for SOA Course MFE/CAS 3F
SENIOR	MATH 3630	3	MATH 3631	3	M3630/M3631 ready for SOA Course MLC/CAS 3L
	MATH 3632*	3	MATH 3634	3	M3632/M3634 ready for SOA Course C/CAS 4 (in part)
	STAT 3115	3	STAT 4825	3	S3115/S4825 satisfies VEE-Statistics
	Minor 3	3	GEN ED--CA 1C	3	
	Minor 4	3	GEN ED--CA 1D	3	
		<u>15</u>	BADM 3740	<u>3</u>	<u>If additional credits necessary</u>
				18	Study and sit for SOA Course MLC/CAS 3L
	*MATH 3632 can sub for Math 3634 per Registrar--but taking MATH 3632 & MATH 3634 best.				
Note: Required Courses for Actuarial Science Major in BOLD				Optional Business Minor: ACCT 2101 + FNCE 3221, 4324, 4325, 4326	
				Optional Economics Minor: ECON 2411 + ECON 2201, 3451, 2202, 2301	

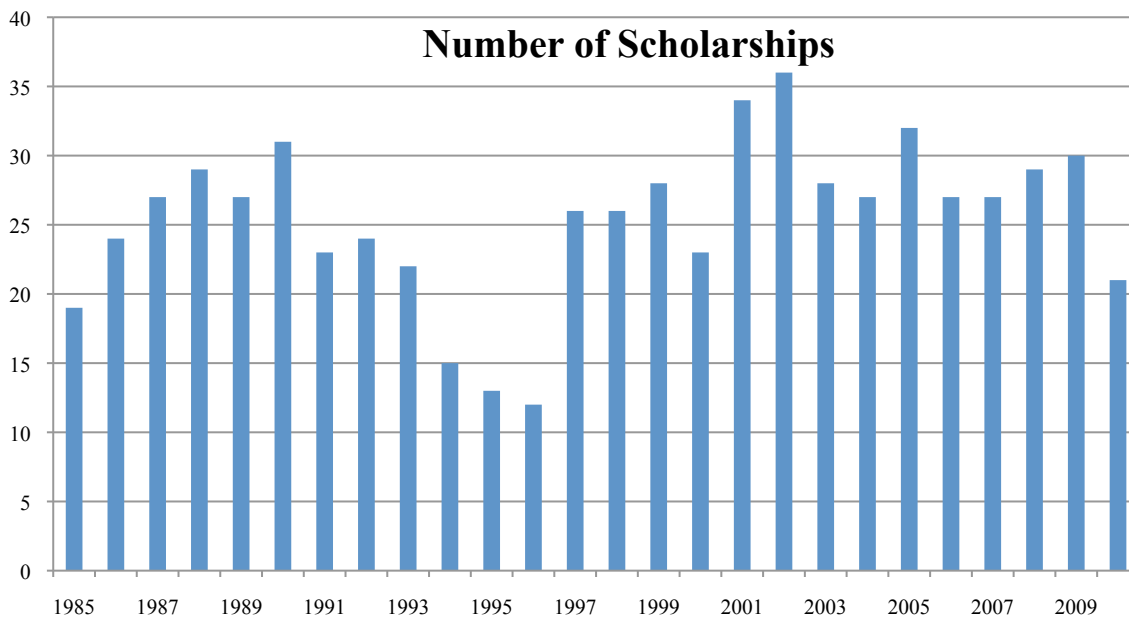
Scholarship Program

There is a strong demand for our graduates in the large financial services industry in Connecticut, the northeast, and throughout the country. The quality of our students is evidenced by the financial support of our corporate sponsors who provide roughly \$75,000 per year in support of our program:

ACTEX Publications, Inc.
Actuaries' Club of Hartford & Springfield
Aetna
CIGNA
D.W. Simpson
Guardian Life Insurance Company
The Hartford
ING
Lincoln Financial Group

MassMutual Financial Group
Mercer
Phoenix Life Insurance
Prudential Financial
Sun Life Financial
Swiss Re
Towers Watson
Travelers
USI Consulting Group

This money is used primarily to award undergraduate scholarships. Additionally, it enhances the program in many ways, such as allowing us to offer more class sections to accommodate the growing number of students in the actuarial science major and enabling us to offer more and varied courses requested by those in the industry. We have also established endowments whose sum has passed the \$500,000 mark.



Scholarships are awarded to undergraduate actuarial science students who excel academically, exhibit strong leadership skills, and provide community services. In 2010, 21 students were awarded scholarships of \$2500 each.

Employment/Study Opportunities

Every fall semester, we have a career fair in which over thirty companies visit our campus to speak with interested students about actuarial opportunities and study opportunities through their organizations. Following this event and continuing into the spring, many of these organizations conduct on-campus interviews both through Career Services and directly through the actuarial science department. Following these interviews, many of our students are offered summer internships and full-time positions in the organizations' actuarial development programs.

The following is a list of some of the participating organizations:

ACTEX Publications, Inc.	MassMutual Financial Group
Aetna	Mercer
Blue Cross/Blue Shield of Massachusetts	MetLife
BPP Professional Education	Milliman
Buck Consultants	New York Life
Chartis	Phoenix Life Insurance
CIGNA	PricewaterhouseCoopers
Deloitte Consulting	Prime Advisors
Fidelity Investments	Prudential Financial
Guardian Life Insurance Company	SALT Solutions
Hanover Insurance	Sun Life Financial
The Hartford	Swiss Re
Hewitt Associates	Towers Watson
Hooker & Holcombe, Inc.	Travelers
Humana	UnitedHealth Group
ING	USI Consulting Group
John Hancock	Vantis Life
LECG	Wellcare Health Plans, Inc.
Liberty Mutual Group	WellPoint
Lincoln Financial Group	

Occasionally we are approached by an organization looking to enter into a work study program. Under this arrangement, the student works twelve to sixteen hours per week during the academic year.

Gamma Iota Sigma

Gamma Iota Sigma is an international academic fraternity for students pursuing careers in risk management, insurance and actuarial science. The purpose of the fraternity is to promote and encourage student interest in these fields, increase business knowledge, and prepare students for their future professions. GIS strives to facilitate interaction between educational institutions and industry through networking, company speakers, and recruiting events. Through these activities, GIS members are able to meet with industry leaders and form contacts that will serve them throughout their careers.

The University of Connecticut-Storrs Gamma Iota Sigma XI Chapter was chartered on February 12, 1978. The goal of the XI Chapter is to act as a professional and social medium for bringing together actuarial science majors at UConn. It is the responsibility of this chapter to maintain a strong relationship with the national organization and the other individual chapters.

