

ACTUARIAL STUDIES INFORMATION

The University of Texas at Austin

2010 - 2011

Note: Even more extensive and detailed information can be found on our actuarial website starting at www.utactuary.info.

Actuarial Careers

The job of an *actuary* has been ranked in every edition of the Wall Street Journal's *Jobs Rated Almanac* as a top three profession (out of 200) in the United States. In the 2010 edition, actuary was ranked the number one career. See www.careercast.com/jobs/content/top-200-jobs-2010-jobs-rated. When ranking professions, the *Almanac* considers factors like salary, hiring outlook, stress, and work environment. So who is an actuary? Actuaries use mathematical skills to define, analyze, and solve business problems involving the cost of possible future events. Actuaries are employed by insurance companies, financial institutions, consulting firms, industrial corporations, government agencies, universities, accounting firms, and labor unions. Actuarial work includes: projecting how a new auto-safety law will change insurance claims; investigating how life-insurance reserves and future premiums might balance future claims; estimating the benefit costs of a labor contract; analyzing investment risks; or projecting financial costs of an epidemic.

Professional societies of actuaries administer a series of examinations for persons wishing to qualify as an Associate or a Fellow as proof of their status as an actuary. While in college, most of our actuarial students take classes that cover the content of four or five **Preliminary Exams**, take courses that cover **VEE** requirements, and successfully pass one to three preliminary actuarial examinations (see **Professional Certification and the University of Texas - Austin Actuarial Program**). Any student possessing strong mathematical problem-solving aptitude, a sound work ethic, and an interest in a business career should consider the actuarial profession. Self-reported data from 2009-2010 UT-Austin actuarial graduates that have passed one or two exams indicate a mean starting annual salary of \$53,900. For a more comprehensive national salary survey conducted by the D.W. Simpson Company, see www.dwsimpson.com/salary.

Actuarial Studies at the University of Texas – Austin

The actuarial studies program at the University of Texas - Austin has a long and distinguished history of producing well-prepared students, many of whom have become leaders of the actuarial profession. In the Society of Actuaries classification of North American actuarial programs, our program qualifies as one of only about 70 Advanced Undergraduate programs and as one of only about 30 Graduate Education or Graduate Education & Research programs—thus providing a thorough preparation for entering an actuarial career.

Majors

While there are special actuarial options (see **Class Scheduling** below) within the undergraduate and graduate Mathematics degrees, actuarial studies is also available as an informal *concentration* rather than an independent major and is therefore open to students in any major.

Besides calculus, linear algebra, probability, and statistics, four Mathematics Department actuarial courses plus two actuarial foundations courses taught by the Mathematics Department anchor the actuarial program; students completing these courses and passing at least one exam can compete well for actuarial jobs. Two other Mathematics actuarial courses, computing courses, Economics courses, Business courses, and Public Speaking courses compose the remainder of the concentration's core; students completing these would be even more competitive for actuarial jobs. Additional suggested courses provide further breadth and depth, especially for graduate students.

Because the program requires so much mathematics, many students choose to pursue an undergraduate or graduate degree in Mathematics. Alternatively, students can take these courses as electives and major in any other area. From the College of Business for example, Finance, Accounting, Business Honors, Management Information Systems, and the Risk Management majors are common. Actuarial employers have hired students from the actuarial program that majored in such diverse fields as Computer Science, Psychology, Electrical Engineering, German, Botany, Music, Physics, and Art History. Students

should seek advice from the Undergraduate or Graduate Adviser of any field in which they are considering majoring as well as from Dr. Maxwell or Dr. Vaaler. Regardless of major, students must meet the requirements of that major in addition to the recommendations for the actuarial concentration.

Students

Our program boasts 200 total students, graduating about 45 annually. The vast majority of our students are either seeking a B.S. in Mathematics – Actuarial option or are College of Business students with a concentration in actuarial studies. A few students already hold an undergraduate degree in some area and are not seeking a second degree; rather they enroll at UT-Austin and enter the program in order to take the classes they need to prepare for some actuarial exams (P/1, FM/2, and perhaps some VEE coursework) and compete well for entry-level actuarial jobs. Our program typically admits 4-8 Master of Arts in Mathematics – Actuarial option students annually. Our graduate students study all of the material for the five preliminary examinations as well as graduate level mathematics or finance courses (see **Graduate Program**).

Support

Professor Maxwell works closely with the actuarial community and the College of Natural Sciences Career Services to help graduates of the program obtain entry-level jobs and to help continuing students obtain summer internships. Approximately 20 actuarial employers will participate at the CNS fall career fair (Frank Erwin Center, 1:00P-6:00P, Monday September 20, 2010) and about 10 actuarial employers will attend the CNS spring career fair (TBD). <http://cns.utexas.edu/careers/career-services/finding-job-opportunities/career-fairs>

The actuarial profession has a long history of supporting our actuarial program with their time (serving on advisory boards, presenting to the student club, providing mock interviews, and recruiting interns and full-time employees) as well as with financial contributions. We received gifts from about 60 individuals and businesses last year as well as support from the professional organizations Actuaries Club of the Southwest and the Southwest Actuarial Forum. During the 2009-2010 academic year, 36 students were awarded a total of \$67,600 in scholarships. For information on the special financial aid available for continuing actuarial students (scholarships, TDI Internship-Scholarships, and Forgivable Loans), please see the announcement **Financial Aid for 2010 – 2011 for Actuarial Students at UT-Austin**.

Coming Soon

Honors in Actuarial Science

Degree modification leading to CERA credential

Directory of Actuarial Related Contacts

Actuarial Program Advisors and Teaching Faculty

See Dr. Maxwell or Dr. Leslie Vaaler for general advice on the actuarial program or actuarial profession.

Mark Maxwell, PhD, ASA - Actuarial Program Director, Clinical Professor of Mathematics, Paul V. Montgomery Fellow of Actuarial Mathematics, the principal author of *Probability and Statistics with Applications: A Problem Solving Text* (approved for Exam P/1) and the co-editor of *Expanding Horizons* - the Education and Research section newsletter of the Society of Actuaries.
maxwell@math.utexas.edu RLM 11.168 (512) 471-7169

Leslie Vaaler, PhD - Buck Consultants Associate Director of Actuarial Studies, Senior Lecturer, and principal author of *Mathematical Interest Theory* (approved for Exam FM/2). As Buck Consultants Associate Director, Dr. Vaaler advises actuarial students and administers our scholarship program.
lvaaler@math.utexas.edu RLM 12.142 (512) 471-6948

Milica Cudina, PhD - Lecturer, teaches a variety of actuarial courses each semester.
mcudina@math.utexas.edu RLM 13.142 (512) 232-6186

Shinko Harper, PhD - Lecturer, teaches ACF329.
shinko@math.utexas.edu RLM 13.160 (512) 232-6194

Gustavo Cepparo, MS - Lecturer, teaches M349R each spring.
gcepparo@math.utexas.edu RLM 13.148 (512) 232-6189

Academic Advisors in the CNS Mathematics, Physics, and Astronomy Advising Center

Provides advice on course selection, degree requirements, adding or dropping courses, ALEKS placement examinations, freshmen and transfer student orientation, and university policy and procedures.

<http://cns.utexas.edu/academics/advising-and-resources>

RLM 4.101 (512) 471-0900

Susan Brown, Academic Advising Coordinator, susan.brown@cns.utexas.edu

Ronda Hall, Academic Advisor, rondahall@mail.utexas.edu

Career Services in the College of Natural Sciences

Provides help with resume writing, interviewing, and job searching. Provides the opportunity to apply and interview on campus for internships and full-time positions. Coordinates two career fairs per year and several workshops on career-related topics. Appointments are available all year.

<http://cns.utexas.edu/careers/career-services>

Painter Hall 5.03 (512) 471-6700

Laura Mondino, Senior Career Advisor, mondino@mail.utexas.edu

Suzette Ruedas, Recruiting Coordinator, recruit@cns.utexas.edu

Actuarial Science Student Club at the University of Texas at Austin

Provides support through P/1 and FM/2 exam preparation seminars, offers mock exams, and organizes professional guest speaker series and social events for students interested in the pursuit of actuarial science.

<http://www.ma.utexas.edu/dev/asc/>

RLM 8.100 - Mailbox only

Lindsay McDowell, President, president.utasc@gmail.com

Lauren Baker, Vice-President, vicepresident.utasc@gmail.com

Andrew Engel, Financial Director, financialdirector.utasc@gmail.com

Emily Kunkel, Administrative Director, admindirector.utasc@gmail.com

Serita Smith, Events Coordinator, eventscoordinator.utasc@gmail.com

M.A. in Mathematics – Actuarial Option

Contact information for prospective graduate students.

<http://www.ma.utexas.edu/academics/graduate/>

Professional Certification and the University of Texas - Austin Actuarial Program

Passing the exams of the Society of Actuaries (the SOA) or the Casualty Actuarial Society (the CAS) is absolutely essential to a successful actuarial career. Students that have passed one or two exams have much better employment opportunities and salaries for both permanent jobs and summer internships.

Detailed official information on certification and exams is available from the SOA on its website at www.soa.org/education/exam-req/ and from the CAS on its website at www.casact.org/admissions/. This section is an unofficial guide for UT-Austin actuarial students to the most relevant aspects of the two credentialing systems.

Education is the basis for certification by the CAS or SOA. Some subjects are required as background, some are validated by educational experience (VEE), and some are validated by preliminary exams administered by the CAS or SOA. Our students are able to take classes that help them prepare for all of the preliminary examinations and VEE courses needed to earn an Associate credential from either the CAS or SOA.

Subjects Required as Background

Background subjects needed for success as an actuary—but not formally validated—include calculus (M408C/M408D or M408K/M408S/M408M or M408K/M408L/M408M), linear algebra (M341 or M340L), accounting (ACC310F or ACC311/ACC312), business law (LEB320F or LEB323), and mathematical statistics (M358K or M378K). Note: Statistics is examined by the CAS as part of its Exam 3L. These background subjects are pre-requisites for many of the following actuarial courses.

VEE - Subjects Validated by Educational Experience

Knowledge of these subjects is validated by passing an examination OR by making at least a B- in a college course accepted by the CAS and SOA. The University of Texas at Austin courses that are pre-approved for validation by the CAS and SOA are: micro-economics and macro-economics (ECO304K and ECON304L), business finance (FIN357), and practical data analysis using regression and time series (M349R). You can find the list of all UT-Austin approved courses under the “U of Texas-Austin” listing at www.soa.org/education/exam-req/edu-vee.aspx.

Preliminary Exams - Subjects Validated by CAS or SOA

SOA Exams P, FM, MFE, and C are jointly administered by the CAS—which denotes them by Exam 1, 2, 3F, and 4. These joint exams count in both the CAS and SOA certification systems. For the CAS, the remaining preliminary exam is CAS Exam 3L. For the SOA, the remaining Preliminary Exam is MLC. Since these preliminary exams are the most likely to be relevant to UT-Austin actuarial students, they are the only ones described further here.

Joint Exam P/1 (Probability) covers calculus-based probability, with many problems set as word problems involving risk. M362K (Probability I) covers most of the content for Exam P/1. Multiple sections of this class are offered each fall, spring, and summer.

In addition to the class, students should plan on preparing an additional 150+/- hours if they wish to successfully pass exam P/1. Similar preparation is required for other exams.

Joint Exam FM/2 (Interest Theory) covers interest theory and introductory financial mathematics. ACF329 (Interest Theory) covers 75% of the content for Exam FM/2. Traditionally we offer two sections of ACF329 each fall and spring semester and we may offer one section during the summer. ACF129D (Introductory Actuarial Financial Mathematics) covers the remaining 25% of the content for FM/2. This 1-credit course is offered each fall and spring semester. We faculty recommend that students preparing for FM/2 take this class the semester immediately after ACF329. ACF129D is NOT required for graduation, but it is often used as a pre-requisite for M339W. Some excellent and motivated students may consider taking ACF129D concurrently with ACF329 or learn the ACF129D material independently.

SOA Exam MLC (Life Contingencies) covers life contingent actuarial models, including contingent-payment models and survival models and special stochastic processes. Our two semester sequence M339U and 339V covers all of the learning objectives for exam MLC. M339U (Actuarial Contingent Payments I) is offered each fall semester only and M339V (Actuarial Contingent Payments II) is offered each spring only. Prerequisites include M362K, ACF329, and M341 (or M340L).

CAS Exam 3L covers the same general topics as SOA Exam MLC, with different emphases, as well as mathematical statistics. The CAS grants credit for Exam 3L to anyone passing SOA Exam MLC. See the description for SOA Exam MLC and recall that statistics is also tested as part of this exam.

Joint Exam MFE/3F (Financial Economics) covers financial economics: the basic mathematical analysis of options and other financial derivatives. M339W (Financial Mathematics for Actuarial Applications) is offered each fall only. Prerequisites include M362K, ACF329 and ACF129D (or FIN377.2).

Joint Exam C/4 (Construction and Evaluation of Actuarial Models) covers simple risk measures; frequency and severity-of-loss and compound models; simulation and its use in modeling; and construction and validation of actuarial models, including credibility theory and estimating and fitting survival models. M339J (=M389J): Probability Models with Actuarial Applications (spring semester only) and M349P=M389P: Actuarial Statistical Estimates (fall semester only). These classes cover 100% of the content for Exam C/4. Prerequisites include M362K and M358K (or M378K).

The Actuarial Concentration

The core of the concentration in Actuarial Studies consists of the **Core Courses** listed below; these cover the material tested in five actuarial examinations and three subjects validated by educational experience (VEE) required for Associateship status. The most essential of these—indicated in **boldface**—are the courses most often taken by students who major in something other than Mathematics or Business.

Some **Additional Courses** listed below are recommended. A strong undergraduate preparation would include most of the Core Courses and possibly some Additional Courses. A strong graduate preparation would include all the Core Courses (some as undergraduate background) plus some Additional Courses. The notation ACF329 (=M389F) denotes the same interest theory class. M389F is the course for which graduate students register. A minimum grade of C- is required in order to meet the prerequisites that follow.

Core Courses

M408N, M408S, and M408M (or **M408C and M408D** or **M408K, M408L, and M408M**): **Calculus.**

Multiple

sections are offered each semester. Note that the M408N/S/M or M488K/L/M sequences are more reasonably paced than the M408C/D sequence.

ACF329 (=M389F): Theory of Interest. Prerequisite: M408S or M408L or M408D. Two sections are offered

each fall and spring semester. We *may* offer one section during the summer session.

ACF129D: Introductory Actuarial Financial Mathematics. Prerequisite: ACF329 (or concurrent registration).

Note that we recommend that most students enroll in ACF129D the semester immediately following ACF329. Offered each fall and spring semester. ACF329 and ACF129D cover the content for exam FM/2.

M362K: Probability I. Prerequisite: M408S or M408L or M408D. Multiple sections each fall, spring, and summer. This course covers 80% of the content for exam P/1.

M341 (or M340L): Linear Algebra. Prerequisite: M408S or M408L or M408D. Multiple sections each fall, spring, and summer.

M358K (or M378K): Statistics. Prerequisite: M362K. Multiple sections each fall, spring, and summer.

M339J (=M389J): Probability Models with Actuarial Applications. Prerequisites: M362K and M358K

(or

M378K). Offered spring semester only

M339U (=M389U): Actuarial contingent payments I. Prerequisites: M362K and (or current registration) in both

ACF329 and M341 (or M340L). Offered fall semester only. We strongly recommend that students master all of the material in both M362K and ACF329 before enrolling in M339U or M339W.

At least two of the following four courses: M339V, M339W, M349P, and M349R

M339V (=M389V): Actuarial Contingent Payments II. Prerequisites: M339U (=M389U) and ACF329 (=M389F).

Offered spring semester only. M339U and M339V cover the content for the MLC exam.

M339W (=M389W): Financial Mathematics for Actuarial Applications. Prerequisites: ACF329 (= M389F) and M362K, and ACF129D (or FIN377.2). Students who have successfully passed exam FM/2 will also be allowed to register for M339W. M339W covers most of the content for exam MFE/3F. Offered fall semester only.

M349P (=M389P): Actuarial Statistical Estimates. Prerequisites: M339J (=M389J) and M341 (or M340L). Offered fall semester only. M339J and M349P cover the learning objectives for the joint C/4 examination.

M349R: Applied Regression and Time Series. Prerequisite: M358K or M378K or any introductory statistics course with the consent of the director of actuarial studies. Offered spring semester only. A grade of B- or higher in M349R will fulfill the VEE requirement in regression and time series.

ACC311 and ACC312 (or ACC310F): Accounting.
 *[Note that actuarial students whose major is neither in Business nor in Mathematics need to petition the School of Business to enroll in restricted Business-major classes including ACC311, ACC312, FIN357, FIN377.2, RM357E, RM369K, and RM377. B.S in Mathematics – Actuarial option students have blanket special permission.]

ECO304K and ECO304L: Economics. Grades of B- or higher in both courses will fulfill the VEE requirement in economics.

FIN357: Finance [See ACC311–312 note. Among the prerequisites, B.S. in Mathematics – Actuarial option students may skip BA324, substitute ACC310F for ACC311-312, and substitute M358K or M378K for STA309; ECO304K & L are also required.]

CS303E, ASE201, or MIS304: Basic computer programming.
 CS313E, CS326E, or CS327E: Computer programming.
 Spreadsheet software knowledge (possibly by taking an online course—see <http://knowledge.learnitonline.com/educate/onlinelearning/marketing/frame.jsp?school=utaustin>)
 Database software knowledge (possibly by taking CS327E or an online course—see <http://knowledge.learnitonline.com/educate/onlinelearning/marketing/frame.jsp?school=utaustin>)
 Public speaking

Additional Courses

M139S (=M189S): Seminar on Actuarial Practice. Prerequisites: ACF329 (=M389F), and at least two of M339J (=M389J), M339U (=M389U), M339V (=M389V) or M349P (=389P). Offered spring semester only.

M175-W substantial-writing-component class based on M139S (=M189S). Prerequisite: Simultaneous registration in M139S (=M189S). Offered spring semester only.

M362M: Introduction to Stochastic Processes. Prerequisite: M362K.

M362N: Continuation of M362M. Prerequisite: M362M.

M374G (=M384G): Linear Regression Analysis. Prerequisites: M358K (or M378K) and M341 (or M340L).

M384G: Regression analysis

M394C: Conference Course in Probability and Statistics (especially when meets with M362M or M362N)

ECO420K: Intermediate Microeconomic Theory

RM357E: Risk Management [See ACC311–312 note.]

RM369K: Managing Employee Risks and Benefits [See ACC311–312 note.]

RM377: Property-Liability Management and Planning [See ACC311–312 note.]

RM395: Topics - Introduction to Risk Management, Managing Financial Risk, Risk management & Finance, Managing Environmental Risk, Managing International Risk, or Managing Employee Risks & Benefits

LEB320F: Business Law Foundations

MAN320F: Management Foundations

MKT320F: Marketing Foundations

FIN367: Investments. [Not part of the blanket permission mentioned in the ACC311–312 note.]

FIN377.2: Financial Risk Management (Options). Prerequisite: FIN357. [See ACC311–312 note.]

STA371H: Statistics and Modeling

STA376: Intermediate Statistics

STA380: Topics - Correlation & Regression Analysis, Forecasting, or Risk Analysis & Management

MIS383N: Topics - Computational Finance, or Financial Engineering

MSC380: Topics - Financial Optimization, or Mathematics in Finance

Other classes that may from time to time be added to this list with the approval of the director of Actuarial Studies and (for graduate courses) the Mathematics Graduate Adviser.

Class Scheduling

Note that each student has a unique background and it is unlikely the any prepared schedule of classes will match your unique goals. You will be able to talk to our professional academic advisors in the College of Natural Sciences as well as the director or associate director of actuarial studies to guide you. But it is up to you to ensure that your course sequencing allows you to succeed. We recommend that you list your goals (e.g., graduate in four years, pass three professional exams, obtain an internship during the summer of your second year, obtain multiple internships, double major in art history, study abroad, etcetera) and create a draft schedule of classes. This is a job for you, not your parents. Your goals will drive your sequencing. For example, the best chance of obtaining a summer internship is to have at least one exam passed by the time of our fall career fair. Are you able to pass an exam by September?

Comment on Course Sequencing

Ideally, students should master the material for Exam P/1 **AND** Exam FM/2 (either order) before taking the material for Exam MFE/3F, Exam MLC and Exam C/4 (any order). It is important that you prepare for your CAS/SOA exam when you are sitting in classes. Do not wait for a year. Spread out your coursework.

Undergraduate Studies

The College of Natural Sciences academic advisors have prepared a degree requirement checklist and sample course plan, available at <http://www.ma.utexas.edu/academics/undergraduate/>. See our **Tentative Actuarial Course Offerings** below when creating your draft. You may also benefit from viewing some **Sample Course Plans**.

College of Business Administration

Combining the actuarial concentration with a major within the College of Business Administration (CBA) leading to a B.B.A. provides an excellent mix of both analytical and business skills. CBA students must concentrate many of their free electives in courses taught by the Mathematics Department and especially must be certain to take the *full* calculus sequence M408C&D (or K&L&M) rather than the partial sequence M408K&L required by the CBA; either full calculus sequence meets the CBA mathematics requirement and in fact is recommended by the CBA for students with strong math skills. Advice is available from Mathematics advisers in RLM 4.101 on which sequence to take and where to enter it, depending on the student's various test scores.

Graduate Studies

The Mathematics Department offers a special focus on Actuarial Studies within the general requirements of the standard M.A. in Mathematics. Students successful in this program receive an M.A. in Mathematics while taking classes that are actuarial or actuarially related. Alternatively, graduate students can take actuarial classes while pursuing some graduate degree not specifically emphasizing actuarial science. The majority of such students have sought an M.S. in Statistics, using Actuarial Studies as their formal minor. There is not a formal Ph.D. program in Actuarial Studies at The University of Texas at Austin, but students have occasionally received Ph.D.'s in various fields for actuarial research. Although none of the actuarial Mathematics faculty are currently active in actuarial research, there are faculty members in various areas such as risk management, financial mathematics, and statistics that are performing distinguished research in actuarial or actuarially related areas.

Master of Arts in Mathematics (focus on Actuarial Studies)

The M.A. in Mathematics requires at least 30 semester-credit-hours of coursework, plus either a Report for 3 hours or an additional Mathematics class for 3 hours. For the Actuarial Studies focus, the Report must be on an actuarial project (usually a write-up of a work project or a study project rather than of original research performed with the guidance of a working actuary) approved by the Director of Actuarial Studies and the coursework must be as specified in the four points below. At most nine hours can be (upper-division) undergraduate hours, with no more than six of those nine in a single subject.

- 1) Actuarial Mathematics Classes (15 hours): M389U, M389V, M389W, M389J, and M389P.
- 2) Minor (6 hours): Non-Mathematics department classes from among those on the **Core Courses** or **Additional Courses** list above or as approved by the director of Actuarial Studies and the Mathematics Graduate Adviser.
- 3) Mathematics Courses (6 hours): Approved by the director of Actuarial Studies and the Mathematics Graduate Adviser. Three of these hours can be the Master's Report.

4) Other Courses (6 hours): Mathematics department classes or non-Mathematics department classes as approved by the director of Actuarial Studies and the Mathematics Graduate Adviser, at least 3 of which must come from the **Additional Courses** list above.

Possible schedules for graduate students may vary enormously, depending on their exam status upon arrival. One possible schedule is found on **Sample Course Plans**. For information on admission and financial aid, connect to the Mathematics graduate program Website starting at www.ma.utexas.edu/dev/math/Graduate/index.html. Although the M.A. program is small—we usually admit and financially support four new students each fall and sometimes admit others without support—the actuarial mathematics classes often are not small, since they meet with the corresponding undergraduate classes (but often with additional questions on tests).

Relationships with the professional actuarial community

We have been especially fortunate to benefit from the advice, support, and participation of the members of two advisory groups for the program. One—the Actuarial Studies Advisory Council—provides advice for the actuarial program on all its activities. The other—the Advisory Board of CBA Alumni in the Actuarial Profession—is composed of CBA (College of Business Administration) alumni of UT-Austin that are interested in encouraging CBA students to participate in the actuarial program. Students with questions about actuarial careers are encouraged to contact any of the listed members.

Actuarial Studies Advisory Council

Douglas Brown, ASA, MAAA, American National Insurance, Galveston TX, Douglas.brown@anico.com
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Advisory Board of the University of Texas – Austin College of Business Alumni (CBA) in the Actuarial Profession

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Are You Interested?

For more information, please contact Dr. Mark Maxwell [(512) 471-7169, maxwell@math.utexas.edu, RLM11.168] or Dr. Leslie Vaaler [(512) 471-6948; lvaaler@math.utexas.edu, RLM 12.142]. The RLM building is on the southeast corner of Speedway and Dean Keeton Street. Even more extensive and detailed information than is contained in this document can be found on our actuarial website www.utactuary.info.

Sample Course Plans

Each student has a unique background, individual strengths and weaknesses, and varying goals. You should select courses that best suit your needs. We want you to avoid a nightmare scenario of taking 6 actuarial courses in your senior year while simultaneously studying for Exam P/1 and looking for a job.

Sample Course Plan I (Entering Freshman)

Consider a hypothetical student who comes to UT as a freshman. She knows that she wants to be an actuary and has advanced placement credit for one semester of calculus. She wants to pass an actuarial exam as soon as possible as well as prepare for all 5 preliminary examinations. Such a student might have the following plan.

Freshman year: Finish the calculus sequence. Take M362K in the spring. Concurrent with taking M362K, prepare for Exam P/1 and sit for the exam in May. If unsuccessful, study through the summer and retake exam P/1 in July.

Sophomore year: Take ACF329 in the fall and ACF129D in the spring. Devote the spring semester for preparing for (passing) exam FM/2 in March or May. Did you find an internship for the summer?

Junior year: Take M339W in the fall and prepare for Exam MFE. Take the sequence M339U and M339V that prepares students for Exam MLC. Pass exam MLC in May. Take M339J in the spring. This M339J class has a statistics prerequisite of M358K or M378K, so have completed such a course. Obtain an internship for the summer for sure. This is a hard year!

Senior year: Take M349P in the fall and take Exam C as soon as possible. Take M349R for VEE credit in applied statistics. Graduate with 5 exams passed, multiple full-time job offers, and fond memories of UT.

Sample Course Plan II (Transfer Student)

Hypothetical student number two, a freshman sport management major with 30 credits. He is a bright kid who always liked math. He wants to become an actuary and still graduate in four years. This student hopes to pass two exams, but knows to not pack every course we offer. The important first step is to get the proper calculus background.

Sophomore year: Finish M408C and M408D (or M408N, M408S, M408M) as soon as possible. This might mean taking a calculus course over the summer session. Once two semesters of calculus are complete, take ONE of ACF329 or M362K. Decide when you can sit for your first exam.

Junior year: It is vital that you finish linear algebra, ACF329 and ACF129D for Exam FM, M362K for exam P, and pass one of those exams by the end of your junior year. Your senior year is going to be busy with coursework, so make sure that you have finished prerequisites like M358K or M378K. You should have completed some VEE coursework in economics and corporate finance.

Senior year: Take the sequence M339U and M339V that prepares students for Exam MLC. Take M349R for VEE credit in applied statistics. Take M339J in the spring. Graduate with 2 exams passed, all of the course content for Exam MLC, all the VEE credit, and fond memories of UT.

Sample Course Plan III (CBA major)

Hypothetical student number three, a freshman CBA major and combining the actuarial concentration. Rather than assume a specific major such as Accounting or Finance, the sample lists major courses as Major, much as unspecified natural science is listed as Science, unspecified social science is listed as Social Science, and so on. The most essential actuarial core courses appear in **boldface** and other actuarial courses appear in *italics*.

Fall #1: **M408C**, *ECO304K*, RHE306, MIS301, Arts or Humanities

Spring #1: **M408D**, *ECO304L*, BA101S, Psychology or Sociology or Anthropology, Psychology or Sociology or Anthropology or Arts or Humanities, Computer Programming

Fall #2: *ACC311*, E316K, BA324, **M362K**, Government, History

Spring #2: *ACC312*, STA309, **ACF329**, Government, History, Public Speaking

Fall #3: Major, LEB323, FIN357, Science, **ACF129D**, **M340L**,

Spring #3: Major, Major, Business internship/practicum, Science, **M358K (or 378K)**,

Fall #4: Major, Major, OM335 or MAN336, MKT337, **M339U**

Spring #4: Major, Major, *M339V*, **M339J**, *M349R*.

Sample Course Plan IV (M.A. student)

Hypothetical graduate student who has Exam P/1 successfully completed and is a teaching assistant. The goal of the graduate student is stay for 4 semesters, to pass at least two actuarial exams, and to obtain a summer internship. Courses that appear in **boldface** are the 15 required credits. Courses in *italics* denote upper division undergraduate classes.

Fall #1: M398T (required for all TAs), M389F, *ACF129D* (or on own), **M389U**. Pass exam FM/2 by January.

Spring #1: **M389V**, **M389J**, *M349R* (for VEE regression credit), M189S. Sit for Exam MLC in May.

Fall #2: **M389P**, **M389W**, Elective. Have completed the coursework for Exam C/4 and Exam MFE. Study.

Spring #2: Elective, Elective.

Tentative Actuarial Course Offerings

Spring 2011	Days	Time	Faculty	Class Size	Notes
ACF 329 = M 389 F	<i>T H</i>	<i>11:00-12:30</i>	<i>Leslie Vaaler</i>	<i>35 and 4</i>	
ACF 329	<i>T H</i>	<i>12:30-2:00</i>	<i>Shinko Harper</i>	<i>41</i>	
M 339 V (56165) M 389 V (56505)	<i>T H</i>	<i>11:00-12:30</i>	<i>Maxwell</i>	<i>Unlimited</i>	
M 339 J = M 389 J	<i>T H</i>	<i>12:30-2:00</i>	<i>Milica Cudina</i>	<i>Split</i>	<i>Start with 30</i>
M 339 J (56140)	<i>T H</i>	<i>8:00-9:30</i>	<i>Maxwell</i>	<i>Split</i>	<i>Start with 30</i>
M 349 R	<i>M W</i>	<i>3:30-5:00</i>	<i>Gustavo Cepparo</i>	<i>69</i>	
ACF 129 D	<i>H</i>	<i>3:30-5:00</i>	<i>Milica Cudina</i>	<i>73</i>	<i>*Full credit *</i>
M 139 S (56115) M 189 S (56500) <i>And M 175 - W</i>	<i>M</i>	<i>5:00-8:00P</i>	<i>Maxwell</i>	<i>73</i>	<i>Meets 5 times</i>

Summer 2011	Days	Time	Faculty	Class Size	Notes
ACF 329	<i>6/2-7/7</i>	<i>10:00-11:30</i>	<i>Milica Cudina</i>	<i>30 max?</i> <i>20 min?</i>	<i>First time to offer in summer</i>
M362K	<i>6/2-7/7</i>	<i>8:30-10:00</i>	<i>Maxwell</i>		<i>Can we recommend to actuarial students?</i>

FALL 2011	Days	Time	Faculty	Class Size	Notes
ACF 329 = M 389 F	<i>T H</i>	<i>11:00-12:30</i>	<i>Milica Cudina</i>	40/split with other	<i>5 students 389F, 35 students 329</i>
ACF 329	<i>T H</i>	<i>12:30-2:00</i>	<i>Shinko Harper</i>	40/split with above	
M 339 U = M 389 U	<i>T H</i>	<i>8:00-9:30</i>	<i>Leslie Vaaler</i>	Split	<i>Save 6 spots for M389</i>
M 339 U	<i>T H</i>	<i>9:30-11:00</i>	<i>Maxwell</i>	Split	<i>Do not conflict with M378K</i>
M 349 P = M 389 P	<i>T H</i>	<i>11:00-12:30</i>	<i>Maxwell</i>	<i>Unlimited</i>	<i>approximately 50 students predicted</i>
M 339 W = M 389 W	<i>T H</i>	<i>12:30-2:00</i>	<i>Milica Cudina</i>	<i>60</i>	
ACF 129 D	<i>T</i>	<i>2:00-2:50</i>	<i>Milica Cudina</i>	<i>50</i>	<i>* owed *, 1 credit class</i>

Spring 2012	Days	Time	Faculty	Class Size	Notes
ACF 329 = M 389 F	<i>T H</i>	<i>12:30-2:00</i>	<i>Shinko Harper</i>	40/split with other	<i>3 students 389F, 37 students 329</i>
ACF 329	<i>MWF</i>	<i>10:00-11:00</i>	<i>Jennifer Mann</i>	40/split with above	<i>1st time to teach. Alternate Time: TH 11:00-12:30</i>
M 339 V = M 389 V	<i>T H</i>	<i>8:00-9:00</i>	<i>Leslie Vaaler</i>	<i>Unlimited</i>	

M 339 J = M 389 J	T H	9:30-11:00	Maxwell	Split	
M 339 J	MWF	11:00-12:00	Milica Cudina	Split	
M 349 R	M W	3:30-5:00	Gustavo Cepparo	50-nolimit	
ACF 129 D	W	12:00-1:00?? Check	Milica Cudina	50	Full credit
M 139 S = M 189 S And M 175	M		Maxwell	Unlimited	Maybe not offer requirement??

Financial Aid Honor Roll Summer 2009–Spring 2010

AEGON-USA Actuarial Mathematics Scholarships

Ruoshu Chen
Meagan Hughes
Arwa Husain
Spencer Ranney

James Morris Dial Scholarships in Actuarial Studies

Zhou Lu

Bruce Fuller Endowed Presidential Scholarship in Actuarial Studies

Spencer Ranney

Hewitt Associates Actuarial Scholarship

Hang Leung
Devan McDonald
Harvey Powers

Jordan Scholarships by Actuarial Club of the Southwest

Ruoshu Chen
Xiaomeng Jiang
Sizhe Liu
Janie Shaw
Xile Xu
Sandy Yeh

Jordan Scholarships by Actuarial Student Club

Xiaomeng Jiang
Taylor Triggs

Jordan Scholarships funded by the Southwest Actuarial Forum

Hang Leung
Caleb Tam

Jordan Scholarships funded by USAA (Life)

David Hough
Caleb Tam
Deborah Thomas
Taylor Triggs
Xiaojie Wang

Jordan Scholarship funded by Mark and Ashley Guajardo

Stephen Nyamapfumba

JP Morgan Compensation and Benefit Strategies Actuarial Scholarship

Matthew Garfield

Mercer HR Consulting Actuarial Scholarships

Jennifer Thelen

Milliman USA Standard of Excellence Actuarial Scholarship
Chanhan Hsu

C. Mitchell Actuarial Scholarship
Katie Laughlin
Zhehui Mao

John S. Rudd Jr. Scholarship
Paul Freeman
Kevin Ma

Rudd and Wisdom Actuarial Studies Scholarships
Silvia Adduci
Albert Bayer
David Hough
Anika Huq
Xiaomeng Jiang
Lu Lu
Zhou Lu
Taylor Triggs

D. W. Simpson & Co. Scholarship
Chanhan Hsu
Nicola Volstad

Towers Perrin Actuarial Scholarships
Matthew Garfield
Melissa Mokry
Nicola Volstad

Towers-Watson Actuarial Scholarships
Katie Laughlin
Daniel Marts

Watson Wyatt Worldwide Actuarial Scholarships
Meagan Hughes
Jennifer Thelen

Troncoso Consulting Group Actuarial Scholarship
Sizhe Liu
Sandy Yeh

USAA P&C Actuarial Scholarships
Anika Huq
Albert Bayer

Eugene Wisdom Memorial Scholarship
Justin Belle
Ying Li
Sanchi Srivastava

Actuarial Studies Excellence-Awards (Fireman's Fund and USF&G merit-based loan program)
Stephen Crone
Stephen Nyamapfumba
Cassie Parks
Zafar Syed
Jefferson Simmons

Texas Department of Insurance Internship (Fireman's Fund and USF&G program to assist the Texas Department of Insurance)

David Hough

Chanhan Hsu

Zhehui Mao

Stephen Nyamapfumba

Jennifer Thelen

Sandy Yeh