

An Actuarial Roadmap for CSUN Mathematics Students *

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Objective

This document has been created to assist students who are interested in the actuarial science profession. Students who follow these procedures will achieve the following:

1. earn a B.S. in Mathematics (Statistics Option);
2. complete at least two actuarial examinations;
3. obtain internship experience;
4. complete two of the actuarial VEE (validation by educational experience) requirements.

These accomplishments will create a strong resume for a graduating student interested in an entry-level actuarial analyst position.

SOA vs CAS

1. The Society of Actuaries (SOA) and Casualty Actuarial Society (CAS) are the two major institutes of actuaries in the United States.
2. They are responsible for providing the professional designations to actuaries.
3. The prospective actuary must select a society based on the type of work he or she is interested in doing. For example property and casualty actuaries are apart of the CAS, whereas life and pension actuaries are apart of the SOA.

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4. One of the requirements to obtain a designation from either society is to pass a series of comprehensive examinations. Another common objective is for candidates to complete VEE requirements (two for the CAS; three for the SOA). However, during the past few years the societies have started to eliminate mutually recognized milestones in order to tailor the examination process to their respective vision of the future actuary. For this reason, it is becoming increasingly important that prospective candidates complete jointly administered examinations and VEE requirements so that their progress is recognized by both societies. Below is a list of these requirements:

- SOA Exam P / CAS Exam 1
- SOA Exam FM / CAS Exam 2
- SOA Exam MFE / CAS Exam 3F
- SOA Exam C / CAS Exam 4 (jointly administered through July 1, 2018)
- VEE Economics
- VEE Corporate Finance (jointly administered through July 1, 2018)

Four-Year Plan of Coursework and Actuarial Exams

Fall 1

- Math 150A (Calculus I)
- Comp 110/L
- Econ 160 (Microeconomics)

Spring 1

- Math 150B (Calculus II)
- Phys 220A/L
- Econ 161 (Macroeconomics)

Summer 1

- Exam Sitting #1 (start with Exam FM/2; see explanation in the next section)

Fall 2

- Math 250 (Calculus III)
- Math 320 (Foundations of Higher Mathematics)

Winter 2

- Exam Sitting #2
- Begin constructing resume and cover letter

Spring 2

- Math 262 (Introduction to Linear Algebra)
- Math 340 (Introductory Probability)

Summer 2

- Exam Sitting #3
- Search for summer internships

Fall 3

- Math 440A (Mathematical Statistics I)
- Math 351 (Differential Equations)

Winter 3

- Exam Sitting #4

Spring 3

- Math 440B (Mathematical Statistics II)
- Math 350 (Advanced Calculus I)

Summer 3

- Participate in an internship.

Fall 4

- Math 462 (Advanced Linear Algebra)
- ELECTIVE: Math 480 (Partial Differential Equations)
- ELECTIVE: Fin 303 (Financial Management) or choose from the list of courses recommended for the Statistics option
- **Begin search for a full-time position**

Winter 4

- Exam Sitting #5

Spring 4

- Math 483 (Mathematical Modeling)
- Math 494 (Note: Internship experience can be used)
- ELECTIVE: Fin 355 (Corporate Finance) or choose from the list of courses recommended for the Statistics option

Notes

1. The four-year plan shown above does not have to be followed exactly, but demonstrates a possible path to achieving all of the four objectives listed in the beginning. Regular consultation with your math adviser is important to ensure that the course sequencing you plan is achievable.
2. Each sitting listed is a potential opportunity to sit for an exam. Please note that the typical requirement for an internship position is to have passed one exam. Thus, it is important that the candidate have this accolade on his/her resume during the internship application process. Candidates must put in a decent effort in order to prepare an appropriate resume and cover letter.
3. It is recommended to take Exam FM/2 first. The reason is that the essential material for Exam P/1, is covered in Math 340, which is not taken until Spring 2. Additionally, it is probably advisable to take Math 440A (Fall 3) to reinforce the ideas and techniques learned in Math 340 prior to taking Exam P/1. Of course, an ambitious candidate could potentially self study this material through the use of an online seminar or appropriate study manual.
4. ECON 160 and ECON 161 satisfy Section D of the GE requirements and also fulfill the VEE Economics requirement. AP credit from high school may be used to satisfy both requirements.
5. The completion of FIN 303 and FIN 355 will satisfy the VEE Corporate Finance requirement.
6. Taking Math 480 as an elective will provide a (slight) advantage for Exam MFE/3F.

Study Material and Study Tips

- ACTEX and ASM distribute actuarial study manuals. Using either manual to pass the exam is common, but is not the only way to achieve exam success.
- The actuarial exams are difficult and require serious attention and focus in order to achieve a passing score. In addition they are costly to take and study for. The first two exams each cost \$ 225 and the price every exam thereafter.
- The Infinite Actuary provides online lecture videos and practice problems. This option is more costly, but is recommended for students who prefer to learn through lecture rather than reading and self-teaching.
- It is not recommended to take these exams during the school semester. Only the most disciplined students have passed an exam during this time period. Six to eight weeks of daily studying, with no other distractions should suffice for the first two exams.
- Use online forums such as the actuarialoutpost.com in order to speak to other students sitting for the exam and get advice from those who have already passed it.

Helpful Links

- www.actuarialoutpost.com - online forum
- www.soa.org - SOA website
- www.casact.org - CAS website
- www.beanactuary.org - useful information about exams including fees and schedules
- www.theinfiniteactuary.com - online lecture videos
- www.actexamdriver.com - study manuals