

Ma 296, 396, 496 ~ Actuarial Competencies I, II, III

Spring Semester 2024-2025

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| Instructor: | Dr. Melissa Gardenghi |
| Office: | Alumni 38 |
| Office Hours: | Daily by appointment, see https://calendly.com/mgardeng/20min |
| Preferred Method of Communication: | MS Teams; personal correspondence by personal chat and general course/content related questions in the course general channel |
| Email: | mgardeng@bju.edu |
| Course Website: | https://math.bju.edu/ma296/ https://math.bju.edu/ma396/ https://math.bju.edu/ma496/ |

Course Description:

Ma 296 Actuarial Competencies I: A study of the applications of mathematics consistent with SOA/CAS preliminary exams with an introduction to independent study techniques and exposure to various general skills needed by a professional actuary. Prerequisite: Permission of department head

Ma 396 Actuarial Competencies II: A study of the applications of mathematics consistent with a second SOA/CAS preliminary exam with continued development of independent study techniques and general skills needed by a professional actuary. Prerequisite: Ma 296

Ma 496 Actuarial Competencies III: A study of the applications of mathematics consistent with a SOA/CAS exam chosen in conjunction with the professor with continued development of independent study techniques and general skills needed by a professional actuary. Prerequisite: Ma 396

Course Context: This course supports the following goals of the actuarial program:

- ASM2: The student will progress logically from premises to valid conclusions in a variety of mathematical and applied contexts including analysis, statistics (both theoretical and applied), probability, and finance.
- ASM3: The student will apply mathematics to actuarial problems (such as financial math and probability modeling) in exercising the biblical mandate to have dominion over the earth.
- ASM5: Construct a biblically consistent philosophy of topics encountered in actuarial science.

Course Goals:

- CG1: Prepare the student, including speed and accuracy, to pass an actuarial exam. ASM2 and ASM3
- CG2: Help the student develop a variety of professional behaviors that will enable them to distinguish themselves from their peers. ASM5

Learning Objectives: The student will be able to

1. Plan/manage exam study to be able to thoroughly prepare for a SOA exam. CG1
2. Determine the appropriate approach for solving problems consistent with the SOA exam syllabus. CG1
3. Complete a practice exam during a three-hour period with an acceptable percentage of correct answers. CG1
4. Develop actuarial professionalism and an awareness of current issues in actuarial science. CG 2

Course Requirements and Evaluation:

1. The grade in this course will be based on the following:
 - a. Miscellaneous assignments to develop professionalism – 15% (due as assigned)
 - b. Quality time spent in preparation for the exam (computed as quality time = time in # of hrs * quality rating/4; where quality rating is given on a scale of 1 to 4) – 30% (average 10 hrs = A-, 8 hrs = B-, 6 hrs = C-)
 - c. Time spent reviewing previous material – 5% (average 1 hr = A-, 0.88 hr = B-, 0.75 hr = C-)
 - d. Number and accuracy of practice problems completed – 30% (average 35 = A-, 30 = B-, 20 = C-) and 15% (average 19 = A-, 15 = B-, 10 = C-) respectively

- e. Scores on practice exams – 5% (best score 80% = A-, 70% = B-, 50% = C-).
2. Passing the designated actuarial exam prior to or the semester will immediately result in a grade of 100% for each of the exam related course requirements (time spent studying/reviewing, practice problems/exam). Submit a copy or scan/photo of your passing notification or SOA/CAS transcript to your instructor to receive full credit. Class attendance is still required unless otherwise indicated by the instructor.

Office Hour Appointments:

Office hour appointments can be made using the Calendly site, <https://calendly.com/mgardeng/20min> (appointments may be made up to two weeks in advance). If there are no available times at which you are able to meet, send Dr. Gardenghi a message including some days/times between 7:30am and 3pm when you are available.

General Policies:

1. You are expected to attend class in accordance with University policy. See the student handbook for attendance requirements. Note that missing class does not change your weekly study requirements.
2. You will maintain the study log (see the provided Excel spreadsheet) to document your study efforts. You will post the Excel file (and keep it updated) in your personal Exam Prep MS Teams channel, so that your professor can keep track your progress.
3. You are expected to come to class each week with questions and/or problems with which you struggled.
4. You may find it beneficial to study together. This can be very valuable and is highly recommended.

Textbook: There is no required text for this course. However, you may find it beneficial to acquire any of the texts recommended for the exam or one of the study guides available. You may also use the Coaching Actuaries resources available.

Tentative Schedule: Presentation schedule is posted in Teams; study schedule is based on anticipated test date.