BOB JONES UNIVERSITY
Department of Mathematics

Ma x96 ~ Actuarial Comp I-III

Spring Semester 2025-26

Professor:	Dr. Melissa Gardenghi, mgardeng@bju.edu
Office:	Al 38
Office Hours:	Daily by appointment, `https://calendly.com/mgardeng/20min`
Preferred Contact:	MS Teams; personal correspondence by personal chat and general course/content related questions in the course general channel
Textbooks:	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.
Technology:	TI BA II, TI 30X MultiView

Course Website:	`http://math.bju.edu/ma296/`
	`http://math.bju.edu/ma396/`
	`http://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 objectives of the mathematics and actuarial program:

- AS2: Apply mathematics to actuarial problems (such as financial math and probability modeling) in exercising the biblical mandate to have dominion over the earth.
- AS3: Use technology as a tool for understanding as well as a labor-saving or problem-solving tool.
- AS5: Construct a biblically consistent philosophy of topics encountered in actuarial science.

Course Goals

The student will ...

CG1: Develop speed and accuracy when solving actuarial problems in preparation for passing an SOA/CAS exam.

CG2: Develop a variety of professional behaviors that will enable them to distinguish themselves from their peers.

Course 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

The course grade will consist of

- Miscellaneous assignments to develop learning skills and professionalism – 15% (due as assigned)
- 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-)
- Time spent reviewing previous material – 5% (average 1 hr = A-, 0.88 hr = B-, 0.75 hr = C-)
- 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
- Scores on practice exams – 5% (best score 80% = A-, 70% = B-, 50% = C-).

** Point assignments are subject to change.

Course Evaluation

All course/assignment grades are based on the evaluation of the work communicated by the student. 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.

Receiving notification of a passing graded on the designated actuarial exam prior to the end of 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.

Letter grades will be based on a standard 10-point scale.

Office Hours

Office hour appointments can be made using the Calendly site (appointments may be made up to two weeks in advance), https://calendly.com/mgardeng/20min. 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

Deportment

Compliance with student handbook policies is expected during class. The classroom is to be a professional environment. That means you are to come to class prepared for the day's discussion, your attention is expected to be on course related material, and you are expected to positively contribute to the class.

Emergencies During Class

In case of emergency requiring evacuation, students will go down the stairs on the fountain side and exit the door facing Wade Hampton underneath the stairs. Students will immediately cross the street and gather by the fence with their class. If we are unable to exit the building, the professor will instruct the students on the best course of action. To be able to respond quickly to external threats, professors may keep classroom doors locked. If you are late arriving to class, you may need to knock on the door and be let in.

Absences

BJU attendance policy is in effect (see `https://home.bju.edu/bju-policies/` for details).

- You should be ready to begin discussions/presentations at the start of the class hour and should demonstration your professionalism by being engaged and attentive during class.
- For absences due to incapacitating illness or emergency, you should contact the instructor as soon as you realize you will not be in class and make arrangements to reschedule presentations if needed. All late work must be submitted by the next calendar day unless other arrangements have been made with the professor.
- Students are expected to attend all student presentations.

Late Policy

Assignments not submitted as directed by the due date will incur the following late penalty.

- Written assignments/papers/projects are penalized at 15% if submitted within 3 calendar days of the due date and are a 0 after that. Oral presentations are a 0% if not presented on the day assigned unless permission to reschedule is granted by the professor.

  Late paper submissions must include the date and time the paper is submitted.

- Work may always be completed early.

Academic Integrity Policies

The university's Academic Integrity Policy is in effect (see `https://home.bju.edu/bju-policies/` for additional details).

Definitions of Integrity Violations

Integrity is the reflection of the character and nature of God in our actions; therefore, students will be expected to work with integrity. In academia, violations of integrity generally fall into one or more of the following categories:

- Cheating: unauthorized use or attempted use of assistance, information, or aids in any academic assignment
- Falsification: submitting work done by others, changing work after submitting an assignment, reporting false information about the completion of an assignment
- Unacceptable collaboration: working with others when not permitted, using AI to generate ideas, thoughts, or content without the explicit permission of the professor
- Facilitation of Cheating: helping another student violate academic integrity, communicating quiz/test questions to other students
- Plagiarism: the intentional or unintentional use to any degree of the ideas or words of one's source material without proper acknowledgement

All work done for this class must represent your own effort, your own understanding, and your own communication of the material.

Course Integrity Policies

If information is taken from other sources (which is at times appropriate), it always needs to be referenced and credit given where it is due. Use standard referencing techniques as taught in En 102. Solutions found on the internet are not to be copied.

- Study: While you are encouraged to study and discuss ideas together, simply copying someone else's work or repeating their ideas is neither useful nor acceptable. Your work should represent your ideas and your understanding of the material.

- Research/Papers: You are encouraged to discuss the general ideas needed to complete your work in this course with your classmates but are not permitted to "work together" on your research. Your research must represent your own ideas, your own work, and your own communication of your work.

Assignment submissions will be evaluated for plagiarism and AI usage at the discretion of the professor. If you have a question about any source you are considering using, it is wise to gain your professor's approval before using it. You are always permitted to ask your professor for help. Any help they choose to provide is acceptable.

AI Usage Policy

The goal of the assignments in this course is to learn to develop the skills covered, NOT to complete the tasks assigned. The use of AI to complete or jumpstart tasks defeats the goal of the assignments. Therefore, you may not use generative AI tools in this course for any assignment without the professor's express permission. AI tools include, but are not limited to, CoPilot, Apple Intelligence, Chat GPT, Bing Chat, Google Bard, Grok, Deepseek, Grammarly, and language translators.

Documentation of Permitted AI Use

Should an AI tool be used with permission, its use must be documented (including the tool used, a summary of the prompts provided and the portions of the assignment that were based on AI generated work). See `https://style.mla.org/citing-generative-ai/` for details on citing the use of AI.