Course Syllabus

Contact Information

Instructor: Dr. Zhiwei (Josh) Tong

- **Email:** zhiwei-tong@uiowa.edu
  
  This is the best way to contact me! Please include “ACTS:3080” in your email subject.

- **Phone:** 1(319)467-0160

- **Office:** 374 SH

- **Office hours:** 10:30–11:30 a.m., MWF

  Held in person unless otherwise announced. Also available by appointment.

- **Personal homepage:** [https://sites.google.com/view/ztong1997/home](https://sites.google.com/view/ztong1997/home)

Grader: Mr. Ting-Hung Yu

- **Email:** ting-hung-yu@uiowa.edu

Department Executive Officer: Professor Kung-Sik Chan

- **Office:** 241 SH

- **Email:** kung-sik-chan@uiowa.edu
Course Description and Objectives

This course covers basic concepts of financial mathematics, and prepares students for the analysis of simple financial and insurance transactions. Topics covered in this course include: time value of money; valuation of annuities, bonds, and loans; immunization; interest rate swaps. The prerequisites for this course include a minimum grade of B- in STAT:3100 (Introduction to Mathematical Statistics I) as well as a good understanding of Calculus and Linear Algebra.

At the end of the course students should be ready to take the SOA Exam FM (Financial Mathematics), which is a three-hour multiple-choice examination. See the official exam website.

A grade of C+ or higher in this course is a prerequisite for virtually all core courses in actuarial science; see the general catalog here.

Website

This course will use ICON (http://icon.uiowa.edu) for announcements, notes, homework assignments, etc. In addition, students are strongly encouraged to post questions and actively engage in discussions on ICON.

Course Materials

There are no required textbooks in this course. We shall follow closely the instructor’s comprehensive course notes, which will be made available on ICON chapter by chapter. Please print out and bring a copy of the relevant portions of the course notes for each class meeting. You will also find that problems from past SOA exams are useful in preparing for exams of this course.

Students are required to bring a CAS/SOA approved calculator to every class. Only CAS/SOA approved calculators are allowed to use for quizzes and exams in this course.

Evaluation System

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>5%</td>
<td>Attendance and active engagement are required</td>
</tr>
<tr>
<td>Assignments</td>
<td>20%</td>
<td>Assigned weekly</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
<td>In total five quizzes spread over the semester</td>
</tr>
<tr>
<td>Midterm</td>
<td>25%</td>
<td>6:30–8:00 p.m. on March 24, 118 MLH</td>
</tr>
<tr>
<td>Final</td>
<td>40%</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Assessment in this course comprises the following items:

- **Attendance: 5%**

  Your attendance and engagement may affect your final grade (positively or negatively).
• **Assignments: 20%**

There will be weekly assignments, each of which roughly consists of 10 questions. Assignments will be released on Fridays and will be due the following Friday. To minimize the spread of virus, your solutions must be scanned and submitted on ICON. Late submission will only be credited at the instructor’s discretion.

Discussion with peer students is encouraged. However, what you hand in must ultimately be your own work.

• **Short Quizzes: 10%**

There will be five 10-minute quizzes spread over the semester, held in class. The schedule of the quizzes will be announced one week in advance. These quizzes are intended to motivate you to study regularly (instead of cramming just before the Midterm and Final Exams!) and will consist of relatively straightforward questions.

• **Midterm Examination: 25%**

There will be a closed-book 90-minute Midterm Examination consisting of short-answer type questions. It has been scheduled for **6:30–8:00 p.m. on March 24, 2022 at 118 MLH.** Partial credit will be given for incorrect answers if quality work is shown.

• **Final Examination: 40%**

There will be a closed-book two-hour Final Examination consisting of around 20 multiple-choice questions, similar in style to Exam FM. It will be scheduled during the University Final Exam Week (May 9–13, 2022). The exact schedule will be announced in class and via ICON once it is fixed by the Registrar.

**Grading scheme.** Plus/minus grades will be given in this course, and undergraduate and graduate students will be treated as two separate groups when it comes to assigning final grades. An approximate guide is as follows:

<table>
<thead>
<tr>
<th>Undergraduate students</th>
<th>Graduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td>A- [85,90)</td>
<td>A- [86.5,91)</td>
</tr>
<tr>
<td>A [90,95)</td>
<td>A [91,95.5)</td>
</tr>
<tr>
<td>A+ [95,100]</td>
<td>A+ [95.5,100]</td>
</tr>
<tr>
<td>B- [70,75)</td>
<td>B- [73,77.5)</td>
</tr>
<tr>
<td>B [75,80)</td>
<td>B [77.5,82)</td>
</tr>
<tr>
<td>B+ [80,85)</td>
<td>B+ [82,86.5)</td>
</tr>
<tr>
<td>C- [55,60)</td>
<td>C- [59.5,64)</td>
</tr>
<tr>
<td>C [60,65)</td>
<td>C [64,68.5)</td>
</tr>
<tr>
<td>C+ [65,70)</td>
<td>C+ [68.5,73)</td>
</tr>
<tr>
<td>D- [40,45)</td>
<td>D- [46,50.5)</td>
</tr>
<tr>
<td>D [45,50)</td>
<td>D [50.5,55)</td>
</tr>
<tr>
<td>D+ [50,55)</td>
<td>D+ [55,59.5)</td>
</tr>
<tr>
<td>F [0,40)</td>
<td>F [0,46)</td>
</tr>
</tbody>
</table>

These are not completely absolute scales and the instructor reserves the right to adjust the cutoffs, depending on the difficulty of the exams.
ATTENDANCE AND CLASSROOM EXPECTATIONS
Students are responsible for attending class and for knowing an instructor’s attendance policies, which vary by course and content area. All students are expected to attend class and to contribute to its learning environment in part by complying with University policies and directives regarding appropriate classroom behavior or other matters.

ABSENCES
Students are responsible for communicating with instructors as soon they know that an absence might occur or as soon as possible in the case of an illness or an unavoidable circumstance. Students can use the CLAS absence form to help communicate with instructors who will decide if the absence is excused or unexcused; the form is located on ICON within the top banner under "Student Tools.” Delays by students in communication with an instructor could result in a forfeit of what otherwise might be an excused absence (https://clas.uiowa.edu/students/handbook/attendance-absences).

ABSENCES: ILLNESS, UNAVOIDABLE CIRCUMSTANCES, AND UNIVERSITY SPONSORED ACTIVITIES
Students who are ill, in an unavoidable circumstance affecting academic work, or who miss class because of a University sponsored activity are allowed by UI policy to make up a missed exam. Documentation is required by the instructor except in the case of a brief illness. Students are responsible for communicating with instructors as soon as the absence is known (https://opsmanual.uiowa.edu/students/absences-class#8.1).

ABSENCES: HOLY DAYS
The University is prepared to make reasonable accommodations for students whose religious holy days coincide with their classroom assignments, test schedules, and classroom attendance expectations. Students must notify their instructors in writing of any such Religious Holy Day conflicts or absences within the first few days of the semester or session, and no later than the third week of the semester. If the conflict or absence will occur within the first three weeks of the semester, the student should notify the instructor as soon as possible. See Operations Manual 8.2 Absences for Religious Holy Days for additional information.

ABSENCES: MILITARY SERVICE OBLIGATIONS
Students absent from class due to U.S. veteran or U.S. military service obligations (including military service-related medical appointments, military orders, and National Guard Service obligations) must be excused without penalty. Instructors must make reasonable accommodations to allow students to make-up exams or other work. Students must communicate with their instructors about the expected possibility of missing class as soon as possible. (For more information, see https://opsmanual.uiowa.edu/iv-8-absences-class%C2%A0-%E2%80%93-0).

ACADEMIC MISCONDUCT
All undergraduates enrolled in courses offered by CLAS have in essence agreed to the College's Code of Academic Honesty. Academic misconduct affects a student's grade and is reported to the College which applies an additional sanction, such as suspension. Outcomes about misconduct are communicated through UI email (https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code).

ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES
The University is committed to providing an educational experience that is accessible to all students. If a student has a diagnosed disability or other disabling condition that may impact the student’s ability to complete the course requirements as stated in the syllabus, the student may seek accommodations through Student Disability Services (SDS). SDS is responsible for making Letters of Accommodation (LOA) available to the student. The student must provide a LOA to the instructor as early in the semester as possible, but requests not made at least two weeks prior to the scheduled activity for which an accommodation is sought may not be accommodated. The LOA will specify what reasonable course accommodations the student is eligible for and those the instructor should provide. Note that accommodations are not granted retroactively but from the time of the student’s request to the instructor onward. Additional information can be found on the SDS website.

CLASS RECORDINGS: PRIVACY AND SHARING
Course lectures and discussions are sometimes recorded or live-streamed. These are only available to students registered for the course and the intellectual property of the faculty member. These materials may not be shared or reproduced
without the explicit written consent of the instructors. Students may not share these recordings with those who are not enrolled in the course; likewise, students may not upload recordings to any other online environment. Doing so is a breach of the Code of Student Conduct and could be a violation of the Federal Education Rights and Privacy Act (FERPA); also see https://dos.uiowa.edu/policies/code-of-student-life/.

COMMUNICATION: UI EMAIL
Students are responsible for all official correspondences sent to their UI email address (uiowa.edu) and must use this address for any communication with instructors or staff in the UI community (Operations Manual, III.15.2). Emails should be respectful and brief, with complex matters addressed during the instructor’s drop-in hours, for example. Faculty are not expected to answer email after business hours or during the weekends.

COMPLAINTS ABOUT ACADEMIC MATTERS
Students with a complaint about a grade or a related academic issue should first visit with the instructor and then with the course supervisor (if one is assigned), and next with the Chair of the department or program offering the course. If not resolved, students may bring their concerns to the College of Liberal Arts and Sciences: https://clas.uiowa.edu/students/handbook/student-rights-responsibilities.

FINAL EXAMINATION POLICIES
The final exam schedule is published during the fifth week of the fall and spring semesters or on the first day of summer classes; students are responsible for knowing the date, time, and place of their final exams. Students should not make travel plans until knowing this information. A student with exams scheduled on the same day and time or who have more than two final exams on the same day should visit this page for how to resolve these problems by the given deadline: https://registrar.uiowa.edu/makeup-final-examination-policies. No exams may be scheduled the week before finals; some exception, however, have been made for labs, language courses, and off-cycle courses (https://registrar.uiowa.edu/final-examination-scheduling-policies).

FREE SPEECH AND EXPRESSION
The University of Iowa supports and upholds the First Amendment protection of freedom of speech and the principles of academic and artistic freedom. We are committed to open inquiry, vigorous debate, and creative expression inside and outside of the classroom. Visit Free Speech at Iowa for more information on the University’s policies on free speech and academic freedom (https://freespeech.uiowa.edu/).

HOME OF THE COURSE
The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the course’s add and drop deadlines, the “second-grade only” option (SGO), and other undergraduate policies and procedures. Different UI colleges may have other policies or deadlines. See https://clas.uiowa.edu/students/handbook. Questions? Contact CLAS at clasps@uiowa.edu or 319-335-2633.

MENTAL HEALTH
Students are encouraged to be mindful of their mental health and seek help as a preventive measure or if feeling overwhelmed and/or struggling to meet course expectations. Students are encouraged to talk to their instructor for assistance with specific class-related concerns. For additional support and counseling, students are encouraged to contact University Counseling Service (UCS). Information about UCS, including resources and how to schedule an appointment, can be found at counseling.uiowa.edu. Find out more about UI mental health services at: mentalhealth.uiowa.edu. Student Health can also address related concerns (https://studenthealth.uiowa.edu/). These visits are free to students. After hours, students are encouraged to call the Johnson County Community Crisis Line at (319) 351-0140 or dial 911 in an emergency.

NON-DISCRIMINATION STATEMENT
The University of Iowa prohibits discrimination in employment, educational programs, and activities on the basis of race, creed, color, religion, national origin, age, sex, pregnancy, disability, genetic information, status as a U.S. veteran, service in the U.S. military, sexual orientation, gender identity, associational preferences, or any other classification that deprives the person of consideration as an individual. The university also affirms its commitment to providing equal opportunities and equal access to university facilities. For additional information on nondiscrimination policies, contact the Director, Office of Institutional Equity, the University of Iowa, 202 Jessup Hall, Iowa City, IA 52242-1316, 319-335-0705, oie-ui@uiowa.edu. Students may share their pronouns and chosen/preferred names in MyUI, which is accessible to instructors and advisors.
SEXUAL HARASSMENT
The University of Iowa prohibits all forms of sexual harassment, sexual misconduct, and related retaliation. The Policy on Sexual Harassment and Sexual Misconduct governs actions by students, faculty, staff and visitors. Incidents of sexual harassment or sexual misconduct can be reported to the Title IX and Gender Equity Office or to the Department of Public Safety. Students impacted by sexual harassment or sexual misconduct may be eligible for academic supportive measures and can learn more by contacting the Title IX and Gender Equity Office. Information about confidential resources can be found here. Watch the video for an explanation of these resources.