AS9005B Course Outline

1. Course Information

Course Information

Title: Advanced Risk Theory

Lecture hours: Monday 10:30 am-11:30 am; Friday 10:30 am -12:30 pm

This course will be offered in person at WSC 248

Office hours: Mondays 12:30 pm-2:00 pm, Fridays 12:30 pm-2:00 pm.

Classes Start	Reading Week	Classes End	Study day(s)	Exam Period
January 8	Feb 17 – Feb 25	April 8	April 9-10	April 11-30

Although the course will be delivered in person, it will adapt to online delivery if necessary due to emergencies declared by the university, either synchronously or asynchronously. The grading scheme will not change. Any assessments affected will be conducted online as determined by the course instructor.

Office hours are conducted in person in my office during office hours. When contacting the instructor, students must use their Western (@uwo.ca) email addresses.

List of Prerequisites

A good understanding of undergraduate-level probability and statistical theory is assumed.

2. Instructor Information

Instructors	Email	Office
Jiandong Ren	Jren6@uwo.ca	WSC219

3. Course Materials

Reference books

1. Klugman, S.A., Panjer, H.H and Willmot, G.E. (2019). Loss Models: Further Topics, 2013, Wiley.

2. Ross, S. Stochastic Processes, (1995), Wiley

3. Coles, S. An Introduction to Statistical Modeling of Extreme Values, 2001, Springer

4. Hofert et al. Elements of Copula Modeling (2010) Springer

5. Other materials/papers that will be posted on OWL.

Students are responsible for checking the course OWL site (http://owl.uwo.ca) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: http://owl.uwo.ca.

If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements
Students need to have access to R programming language.

Topics covered

1. Risk processes (Ch 7 of Klugman et al. [1] and Ch 2 of Ross [2])
2. Introduction to Extreme Value Theory (Ch 4 of Klugman et al. [1] and relevant chapters of Coles [3])
3. Introduction to Dependence Modeling and Copulas. (Ch 10 of Klugman et al. [1] and other relevant materials)

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignment 1	29-Jan	10%
Assignment 2	08-Mar	10%
Midterm test	25-Feb	25%
Project/Presentation	01-Apr	30%
Final Exam		25%

6. Student Absences

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

1. For medical absences, get a Student Medical Certificate (SMC) signed by a licensed medical or mental health.
2. Get appropriate documentation for non-medical absences.

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered to get approved unless otherwise instructed in the course outline.

- Late submission can be accepted if you missed an assignment or project report deadline due to legitimate reasons.
- There will be no make-up exams for a missed midterm. For those who do legitimately miss a midterm and provide the required supporting documentation, the standard practice will be that the weight of the midterm will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.
- If you miss the Final Exam, please contact me with the supporting documentation as soon as possible. If approved, you can write the Special Exam (the name given by the university to a makeup Final Exam).
- You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period. See http://www.registrar.uwo.ca/examinations/exam_schedule.html).

For further information, please consult the University's medical illness policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

The Student Medical Certificate is available at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

7. Accommodation and Accessibility

Religious Accommodation
When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

https://multiculturalcalendar.com/ecal/index.php?s=c-univwo.

Accommodation Policies
Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf.

7. Academic Policies

The website for Registrarial Services is http://www.registrar.uwo.ca.

In accordance with policy,

   https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Scholastic offenses are taken seriously, and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

   http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic-related matters: https://www.uwo.ca/sci/counselling/.

Students who are in emotional/mental distress should refer to Mental Health@Western (https://uwo.ca/health/) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

   https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

   http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (https://learning.uwo.ca) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre and year-round through individual counseling.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: https://www.uwo.ca/se/digital/.

Additional student-run support services are offered by the USC, https://westernusc.ca/services/.