**Department of Mathematics**

 **Math 1228 Course Outline**

**1. Course Information**

**Course Information**

This course is Math 1228, section 200. The lecture material is presented online, asynchronously through OWL. There are six in-person tutorial sections, 002, 003, 004, 005, 006, and 007. The purpose of the tutorials is to emphasize material presented in the lectures and to help prepare students for the course assessments.

|  |  |  |  |
| --- | --- | --- | --- |
| Section | Time | Room | Instructor |
| 002 |  |  | O’Hara |
| 003 |  |  | O’Hara |
| 004 |  |  | O’Hara |
| 005 |  |  | Kim |
| 006 |  |  | Kim |
| 007 |  |  | Kim |

**List of Prerequisites:** One or more of Ontario Secondary School MCV4U, MHF4U, MDM4U, Mathematics 0110A/B, 1225A/B, 1229A/B.

**List of Antirequisites:** Mathematics 2124A/B, 2155F/G, Statistical Sciences 2035, 2141A/B, 2857A/B.

Unless you have either the prerequisites for this course or written special permission from the Department of Mathematics to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed.

**2. Instructor Information**

|  |  |  |
| --- | --- | --- |
| **Instructors** | **Email** | **Office** |
| Dr. Allen O’Hara (Course Coordinator) | aohara@uwo.ca | MC 113 |
| Dr. Hyun Jong Kim | hkim2293@uwo.ca | MC 119 |

**Course Contact Policies**

Students must use their Western (@uwo.ca) email addresses when contacting their tutorial professors. Any email sent to the instructor MUST say Math 1228 in the subject line; Any email without proper subject line, and/or sent from an email other than a Western email, may be deleted unread. The primary point of contact for each student is their tutorial professor. Unless instructed otherwise, please do not contact the course coordinator with course-related questions. Email is not an efficient way of contact, and response times vary wildly depending on email volume (professors may be receiving tens of emails per day). Students can use office hours for meetings with more urgent matters.

**Office Hours Information**

Each tutorial professor will hold at least two office hours weekly to provide help to the students of their tutorial. Information about day, time, location and format of the office hours will be provided on the course OWL website.

**Math-Physics Accelerator**

The Mathematics Department runs free in-person and virtual help centres every weekday during the semester, starting the third week of the term. The in-person help centre is located in the Math-Physics Accelerator in PAB 48/49/26 (on the lower level of the Physics and Astronomy Building.)

These help centres are staffed by graduate student teaching assistants and all first-year mathematics courses are supported. No appointments are necessary.

Information about the help center and other departmental support for students can be found at: <https://www.math.uwo.ca/undergraduate/current_students/Help%20Centre.html>

**3. Course Syllabus, Schedule, Delivery Mode**

Math 1228 (Methods of Finite Mathematics) covers: techniques of counting, probability, discrete and continuous random variables. Students are expected to demonstrate an understanding of these concepts and an ability to apply them in solving a variety of problems.

This is a blended course. All students are registered in section 200 and also in one of the tutorial sections. Tutorials, taught by the course Instructors, meet once per week. Students are expected to have made every effort to have learned the material for the week, from the resources provided, before attending the tutorial.

Students should make a serious effort to understand all course material and do all the assigned homework. The student must assume responsibility for staying up to date with course content and for being aware of posted deadlines. It is up to the student to seek out help when needed. The student is responsible for being aware of all relevant information posted on the OWL web site.

In the event of a COVID19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course coordinator.

**Learning Outcomes**

A successful student in this course will be able to:

1. Set up counting tree diagrams from given information and use those trees to calculate unknown set sizes.
2. Break down complicated counting problems into simpler calculations corresponding to the individual counting techniques presented in the course.
3. Apply their understanding of conditional probability to create and work with probability trees.
4. Recognize and calculate probabilities related to repeated independent trials.
5. Calculate mean, variance, and standard deviations for random variables.
6. Use normal approximation to answer questions about discrete random variables using normal random variables.

**4. Course Materials**

All course material will be posted to OWL: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL site (https://westernu.brightspace.com/) regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the [OWL Brightspace Help](https://brightspacehelp.uwo.ca/) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

A (required) custom textbook is posted (free) on the course OWL site. Note: It is not an e-book, just pdf files.

**Technical Requirements**

Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for any relevant services.

**5. Methods of Evaluation**

The overall course grade will be calculated as listed below:

|  |  |  |
| --- | --- | --- |
| Assessment | Weight | Notes |
| Quizzes | 10% (total) | Only the best 5 of the 6 quizzes count |
| Term Test 1 | 20% | Covers Chapter 1. Friday Oct. 3 7-8:30pm |
| Term Test 2 | 20% | Covers Chapter 2, Friday Nov. 14 7-8:30pm |
| Final Exam | 40% | Cumulative. The date will be published by the registrar. |
| Bonus\* | 10% | The best of the three tests gets additional weight |

**Online Quizzes**

Six online quizzes will be released through the "Online Quizzes" tab on the OWL website. The quiz schedule (as well as other information about the quizzes) can be found on the course OWL website. Each quiz consists of eight multiple choice questions covering three sections of the textbook. Students will have two attempts to complete each quiz; the questions in each attempt will be randomly generated from question pools and may differ from the others. Of these two attempts, the highest mark will be recorded as the student's quiz grade. The student's best five of the six online quizzes, each counted equally, will be used to calculate the grade for the Online Quizzes component.

Each quiz will be available for a 6-day window and students can take the quiz any time during this window with no time limit. Students should aim to complete all quizzes by the posted deadline. We will leave the quizzes open for 48 hours after the deadline as a grace period with no late penalty.

Remark: The quiz won’t be proctored however; they are supposed to be YOUR OWN WORK. Getting answers from a friend, from social media, or from any AI system or tool is CHEATING and is not allowed.

**Midterm Tests**

The 2 Term Tests are each 90 minutes in length. Test 1 will cover Chapter 1 of the textbook, while Test 2 will cover (only) Chapter 2 (but Chapter 1 material comes up in the context of Chapter 2).

The location of the tests will be announced during the week of the test date.

**Final Exam**

The final exam is cumulative, with more focus on the last part of the course. It will be a three-hour long exam that will take place in-person and will be scheduled by the Office of Registrars.

**Remark on Assessments**:

NO calculators or other electronic devices or any other aids are allowed on tests and exams

Your mark in the course will be the mark that you earn based on your demonstrated understanding of the course content, assessed using the outlined criteria. Extra credit assignments are not available, and assessments cannot be rewritten to obtain a higher mark. So, students are encouraged to take the course material and the methods of assessment seriously.

**General information about missed coursework**

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs,* posted on the Academic Calendar:

<https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf>,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](http://academicsupport.uwo.ca/accessible_education/).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar’s webpage:

<https://registrar.uwo.ca/academics/academic_considerations/>

All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this, and therefore always require formal supporting documentation:

* **Term Test 2**
* **The Final Exam**

When a student *mistakenly* submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

**Evaluation Scheme for Missed Assessments**

*Missed Online Quizzes*

If a reason keeps you from taking an online quiz past the deadline and through the 48-hour no-penalty grace period, contact your faculty’s Academic Counselling Office immediately to request academic consideration covering both the quiz close date and the 48-hour grace period. See “Coursework with Assessment Flexibility” for details and exceptions.

If academic consideration is approved within two weeks of the quiz close date and before classes end: the quiz will be re-opened for 48 hours for you to complete.

If academic consideration is approved after two weeks from the quiz close date or after classes end (whichever comes first): the quiz will not be re-opened; its weight will be shifted to the final exam.

*Absences from Midterm Tests*

If you miss a midterm test due to any circumstance, you must provide an academic consideration covering the date of the test. As it is noted previously, students can not use their academic consideration without documentation for the second midterm test.

Makeup examination for the midterm tests will be available to those who are granted academic consideration. A makeup test is expected to be scheduled for the week after the original test date. In cases where a student misses a midterm test and the makeup test and can provide an academic consideration for both absences, the weight of the test will be transferred to the final exam.

*Absences from Final Examinations*

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under Special Examinations), especially for those who miss multiple final exams within one examination period.

**Coursework with Assessment Flexibility**

By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

**Flexible Completion Quizzes.** This course has 6 quizzes, and the five quizzes with the highest marks are counted towards your final grade. Should extenuating circumstances arise, students do not need to request Academic Consideration for the first missed quiz. Academic consideration requests will be denied for the first missed quiz. Academic Consideration requests may be granted when students miss more than one quiz, and these additional (2nd, 3rd, 4th…) missed quizzes will be reweighted to the final exam.

**Deadline with a No-Late-Penalty Period Assignments.** Students should aim to complete all quizzes by the posted deadline. We will leave the quizzes open for 48 hours after the deadline as a no late penalty period. No submission will be accepted after that 48-hour period

**6. Additional Statements**

**6.1 Religious Accommodation**

When conflicts arise with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible, but not later than two weeks prior to the writing of the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university’s EDID website for the recognized religious holidays - <https://www.edi.uwo.ca>

**6.2 Academic 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](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf).

**6.3 General Academic Policies**

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

**Use of @uwo.ca email:** 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 email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

**Requests for Relief** (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

<https://uwo.ca/univsec//pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf>

Procedures on Request for Relief from Academic Decision (Undergraduate):

<https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf>

Procedures on Request for Relief from Academic Decision (Graduate):

<https://uwo.ca/univsec//pdf/academic_policies/appeals/graduate_requests_for_relief_procedure.pdf>

**6.4 Scholastic Offences**

Policy on Scholastic Offences: <https://uwo.ca/univsec//pdf/academic_policies/appeals/scholastic_offences.pdf>

Procedures on Scholastic Offences:

<https://uwo.ca/univsec//pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf>

**Use of Electronic Devices During Assessments**

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a *scholastic offence*, even if the device is not in use.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

**Use of Generative AI Tools**

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is your responsibility to seek clarification before using any AI tools in academic work.

**6.5 Support Services**

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, 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.

Learning-skills counsellors at Learning Development and Success ([https://learning.uwo.ca](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 counselling.

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