

University of Winnipeg
Department of Geography
GEOG 3210(3) -001: Hydrology
Winter Term - 2022

Please note classes will be conducted online using a combination of Nexus Communication Tools and Zoom. Students must be available during the posted lecture times for live streaming and/or discussions.

High-speed internet is mandatory. In addition, you are required to use a webcam, either one which is built-in to your computer or one that connects to your computer via USB for exams and presentations.

Classroom: online, **Class Hours:** Mondays, Wednesdays, and Fridays (9:30 – 10:20 AM)

Lab Room: online, **Lab Hours** – Fridays (1:30 – 3:20 PM)

Instructor: Dr. Aminul Haque

Office Hours: By appointment only

Email: a.haque@uwinnipeg.ca

Course Description

This course examines all major components (precipitation, evaporation, streamflow, groundwater) of the hydrologic cycle, with the most attention being given to surface hydrology. The emphasis throughout the course will be placed upon the methods by which each component may be measured or estimated. Additional topics to be covered include the causes and consequences of floods, flood frequency, analysis, estimation of peak streamflow, snow hydrology, sediment transport, water balance methods, and urban hydrology.

Prerequisites

GEOG-1201 (3) and GEOG-1202(3)

Course Objectives

To provide the students with:

- an understanding of key concepts and theoretical approaches in hydrology as they apply to the surface and near-surface environments
- an understanding of the controls on the storage, movement and properties of water in these environments.
- an understanding of some of the environmental consequences associated with the alteration of hydrological processes and properties
- a familiarity with some of the basic approaches used to model water fluxes in the surface and near-surface environments

Important Dates

Date	Significance
Monday, January 10	First Lecture
Friday, January 14	First Lab
Monday, January 31	Midterm #1
February 20 – 26	Reading Break
Monday, February 21	Louis Riel Day (University closed)
Monday, February 28	Midterm #2
Wednesday, March 16	FINAL DATE to withdraw without academic penalty from courses that begin in January and end in April of the 2022 Winter Term. Please note that withdrawing before this date does not necessarily result in a fee refund.
Friday, April 08	Last Class
April 12 – 26	Final Exam Period

Course Assessment

Assessment	Percentage
Lab Assignments	30%
Mid-term #1	15%
Mid-term #2	15%
Final exam	40%
	100%

Check <http://www.uwinnipeg.ca/index/current-exam-schedule> for the date of the final exam.

The following numeric percentages will be used as guidelines when assigning letter grades:

Percent	0-49%	50-59%	60-64%	65-69%	70-74%	75-79%	80-84%	85-89%	90-100%
Letter Grade	F	D	C	C+	B	B+	A-	A	A+

After inspecting the grades, the Departmental Review Committee will forward them to the University's Senate for approval. Please note that while there is a high probability that the percentages specified above will be used, it is possible that the distribution of class marks will cause the Departmental Review Committee or the Senate to require adjustments.

Required Text

Davie, T. (2008) Fundamentals of hydrology, Second edition.

Course Topics and Readings

Additional course materials are available through NEXUS. This course is NEXUS enhanced, and students are encouraged to visit it frequently. All information posted on the NEXUS site is required reading. You must be enrolled in the course to access the Nexus course website. If you encounter difficulties with Nexus, contact the help desk at 204-786-9149 or help.desk@uwinnipeg.ca. Lecture outlines, assignments, important announcements regarding the course, power point lecture material and sample exam papers with answers plus other material will be posted on the course website. <https://nexus.uwinnipeg.ca/>

The following course organization outlines the topics to be discussed during lectures. The order and dates of the presentations are subject to change as circumstances dictate. We may also not be able to cover the entire curriculum due to the class's interest in examining in more detail some of the topics.

Week	Date	Topic
1	Jan 10, 12, 14	Course introduction, The water balance, Atmospheric water
2	Jan 17, 19, 21	Precipitation
3	Jan 24, 26, 28	Evaporation, Modelling evaporation
	Jan 31	MIDTERM #1
4	Feb 2, 4	Modelling evaporation, Soil water storage and movement
5	Feb 7, 9, 11	Soil water storage and movement
6	Feb 14, 16, 18	Groundwater
	Feb 20 – 26	READING WEEK – NO CLASS
	Feb 28	MIDTERM #2
7	Mar 2, 4	Infiltration, Runoff
8	Mar 7, 9, 11	Runoff, Measurement of flow
9	Mar 14, 16, 18	Measurement of flow, Snow hydrology
10	Mar 21, 23, 25	Stream hydrographs, Floods
11	Mar 28, 30, Apr 01	Floods, Water quality
12	Apr 04, 06, 08	Make up classes and review of previous topics

Midterms and final examination

The midterm examinations (1 hr) may include any combination of multiple-choice, true and false, fill-in-the-blank and short answer questions. Results of the mid-term examinations will be posted on Nexus before the voluntary withdrawal date.

The final examination (2 hrs) may include any combination of multiple-choice, true and false, fill-in-the-blank and short answer questions. **The contents of the final exam will include all the material covered throughout the course.**

STUDENT IDENTIFICATION AND REQUIREMENTS IN TEST

1. Midterms and Final exam will be proctored online via the online software Zoom. You will need a webcam to write tests.
2. Bring your University of Winnipeg student ID to all exams for identification purposes.

Late Work

Unless prior arrangements have been made, assignments handed in late (after the specified time/date) will incur a penalty of 10% off per day of the earned grade and will not be accepted after 5 days have passed from the due date.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide an opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2021-22 Undergraduate Academic Calendar.

Attendance Policy

Students are encouraged to attend all classes and to participate in online discussions. **Please note that lectures may cover materials not given in the textbook and lecture notes. Midterms and Final exam will include questions from the materials covered in lectures.**

NOTICE REGARDING TEST AND EXAM PROCTORING

Tests/exams are proctored through a live Zoom meeting and may also be recorded for later review. Students must sit and face an engaged camera to enable monitoring. Microphones should be muted. As part of this monitoring, please note:

* Zoom has been configured to disable students from recording the test/exam. After being reviewed for academic dishonesty, recordings will be deleted if no such evidence is found.

Privacy. Please refer to the following links for your rights in relation to the collecting of personal data by the University (<https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>), Zoom remote teaching (<https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>) and testing/proctoring (<https://www.uwinnipeg.ca/privacy/zoom-test-and-exam-proctoring.html>)

GUIDELINES FOR VIRTUAL LECTURES USING ZOOM

The lectures will be delivered through zoom using the screen share function to show the PowerPoint slides. Please follow the guidelines given below when using zoom.

1. A recurring zoom link will be available in NEXUS course management platform. **Please do not share this link.** The same link can be used for all lectures and labs.
2. **Please sign in on time for class and lab each day.** As the host, your instructor will admit you before the class. It will be distracting to the instructor if students sign in after the class has begun.

3. Please remember to be respectful by trying to minimize distractions during zoom lectures, including muting your device when not speaking. It is your choice whether the video is muted or not. However, the instructor requests, wherever possible, the video be turned on for class discussions.
4. If you have a question, you may raise your hand or use the chat option in zoom to ask the question. If you raise your hand, please unmute and ask the question when prompted by the instructor. You may use the Chat option and type in your question at any time.
5. During class discussion, students will be placed into "breakout rooms" so that they are able to discuss more openly in a smaller group. The instructor will be moving between the rooms to assist the students.
6. Live lectures will not be saved as video files. PowerPoint slides will be posted to the Nexus site prior to the lecture.
7. A special zoom link will be made available on the NEXUS course page for office hours only. Students who connect during office hours will be placed in a waiting room until the instructor is finished with the students joined before them.

If you have any questions about learning online, check out answers to frequently asked questions related to remote learning here: <https://www.uwinnipeg.ca/covid-19/remote-learning-faq.html>.

Class Cancellation

When it is necessary to cancel a class due to exceptional circumstances, I will make every effort to inform students via uwinnipeg email (and/or using the preferred form of communication, as designated in this outline), as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.

Correspondence

Students are reminded that they have a responsibility to regularly check their uwinnipeg email addresses to ensure timely receipt of correspondence from the University and/or their course instructors. **Similarly, the instructor will only accept correspondence from students through their uwinnipeg email addresses.**

Avoiding Academic and Non-academic Misconduct

Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at:

<https://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf> . Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals), and 10 (Grade Appeals). Please note, in particular, the subsection of Student Discipline pertaining to plagiarism and other forms of cheating.

Detailed information can be found at the following:

Academic Misconduct Policy and Procedures:

<https://www.uwinnipeg.ca/institutionalanalysis/docs/policies/academic-misconduct-policy.pdf> and

<https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconductprocedures.pdf>

Non-Academic Misconduct Policy and Procedures: <https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconductpolicy.pdf> and <https://www.uwinnipeg.ca/institutional-analysis/docs/student-nonacademic-misconduct-procedures.pdf>

Misuse of Filesharing Sites

Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves "aiding and abetting" plagiarism. Students who do this can be charged with Academic Misconduct.

Avoiding Copyright Violation

Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. Students who upload these materials to filesharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor /presenter before photographing or recording slides, presentations, lectures, and notes on the board.

Accessibility Services

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 204-786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a student's disability or medical condition remains confidential <http://www.uwinnipeg.ca/accessibility>.

Respectful Working and Learning Environment

All students, faculty and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at <http://www.uwinnipeg.ca/respect/>

The University of Winnipeg promotes a scent-free environment. Please be respectful of the needs of fellow classmates and the instructor by avoiding the use of scented products while attending lectures and labs. Exposure to perfumes and other scented products (such as lotion) can trigger serious health reactions in persons with asthma, allergies, migraines or chemical sensitivities.

Research Ethics

Students conducting research interviews, focus groups, surveys, or any other method of collecting data from any person, including a family member, must obtain research ethics approval before commencing data collection. Exceptions are research activities done in class as a learning exercise. For submission requirements and deadlines, see <http://www.uwinnipeg.ca/research/human-ethics.html>.

Indigenous Student Services

Indigenous students seeking additional supports, academic or other, are encouraged to contact the Aboriginal Student Services Centre (ASSC). The ASSC offers a variety of support services, and was

created to maintain a safe, educational and culturally sensitive environment for all Aboriginal students (First Nation, Metis and Inuit) as they pursue their academic studies at The University of Winnipeg. More information can be found at: <http://www.uwinnipeg.ca/assc/>.