School of Science

GEOG 101

Earth Systems: Atmosphere and Climate

Term: Fall 2023

Number of Credits: 3

Course Outline

INSTRUCTOR: Tara Howatt, PhD
E-MAIL: thowatt@yukonu.ca
OFFICE: TBA, office hours by appointment

LECTURE: Mon. & Tues. 4:00 – 5:20 pm
LECTURE CLASSROOM: A2103
LAB: Wed. 1:00 – 3:50 pm
LAB CLASSROOM: A2101

COURSE DESCRIPTION

GEOG 101 is an introduction to the physical environment and methods of earth system research. The basic principles and processes that govern climate-weather-water systems on the surface of the earth will be examined from a systems perspective. Natural and human-induced changes in environmental systems through time will also be addressed. Issues of spatial and temporal scale, in the context of earth systems, will be demonstrated by laboratory investigations and principles of geographic information systems and remote sensing. The course will highlight a range of current research taking place throughout Yukon. GEOG 101 is the complementary course of GEOG 102.

COURSE REQUIREMENTS

Prerequisite(s): None.

EQUIVALENCY OR TRANSFERABILITY

Receiving institutions determine course transferability. Find further information at:
https://www.yukonu.ca/admissions/transfer-credit

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

1. Understand the processes that govern Earth's weather, climate, and hydrological systems.
2. Understand the concept of earth systems research including the interactions between the landscape, climate, and biophysical features.
3. Have developed some comfort in a laboratory setting.
4. Be able to provide examples of current research and work taking place throughout the Yukon Territory and understand its implications.
5. Be able to critically analyze current media and peer-reviewed articles surrounding global climate change.

COURSE FORMAT

Weekly breakdown of instructional hours

This course will have two 1.5-hr lectures each week and one 3-hr lab each week. Students are expected to keep up with assigned course readings and complete assignments as necessary outside of scheduled hours each week.

Students are expected to attend both lectures and lab each week. If a student is absent for a lecture or a lab, they must contact the lecture or laboratory instructor and make up for the missed material on their own time. A missed lab may result in a grade value of 0 for that activity if it cannot be completed outside of the scheduled lab period.

Delivery format

This course will be delivered on campus in a face-to-face setting. Lectures will take place in a classroom (A2103) and labs will take place in a multi-purpose laboratory (A2101). Lectures and labs are complimentary. Field activities may be a part of the course curriculum. Your instructors will provide details about what to bring and expect prior to any field activity.

EVALUATION

Assignments #1 and 2	20%
Weekly Quizzes	10%
Midterm Exam	15%
Final Exam	20%
Lab Activities	35%
Total	100%

***NOTE The lecture and lab are being graded separately with 65% of your mark coming from the lecture and 35% from the lab. You need a passing grade in the lecture and lab as they are being marked separately. For example, a passing grade in the lecture and a zero in the lab will result in failure of the course.

Assignments

There will be two assignments in this course. Assignment #1 will be assigned in the first half of the course. Assignment #2 will be assigned in the second half of the course. Each assignment will be worth a grade value of 10%. Your instructor will provide an assignment outline and expectations in lecture.

Quizzes

A weekly quiz delivered each week. Quizzes are based largely on assigned readings and are created to encourage students to complete assigned readings on time each week. Students will have one week to complete the quiz, after which the quiz will be closed.

Late Policy

A late penalty will be applied to presentations, assignments and lab reports when submitted after the due date. A deduction of 10% per day up until a maximum of 50% will be applied. Following that, students must hand in the work *before* the graded work is returned to students. Extensions will not be granted. If you anticipate difficulty submitting work on time, please speak to the instructor *before* the due date and an alternative submission plan may be possible.

COURSE WITHDRAWAL INFORMATION

The last date to withdraw without academic penalty is Nov. 2nd, 2023. Refer to the YukonU website for other important dates.

TEXTBOOKS & LEARNING MATERIALS

Christopherson, R.W. & Byrne, M.L. 2016. Geosystems: An introduction to Physical Geography—Fourth Canadian Edition. Canadian Edition. Prentice-Hall Canada, Inc.: Toronto.

This textbook is available from www.pearson.com as an e-text.

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures for further details about academic standing and student rights and responsibilities.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website). It is the student's responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

TOPIC OUTLINE

A detailed schedule with due dates will be provided to students during the first lecture. Topics that will be covered in this course include:

Module	Topic
1	Introduction to Geography and Geography Essentials
2	Solar Energy and Earth's Seasons
3	Introduction to Earth's Atmosphere
4	Energy Balances on Earth and Global Temperature
5	Water and Atmospheric Circulation Systems
6	Water and Atmospheric Moisture
7	Weather
8	Climate Change