Western SocialScience

Geography and Environment

GEOG 2090B – Space Exploration
Course Outline: Section 001 Winter 2026

This course is taught online

1. Course Information

*Details about design and delivery of the course are listed below in Section 6

Classes Start	Spring Reading Week	Classes End	Study day(s)	Exam Period
January 5	February 14-22	April 9	April 10-11	April 12-30

Tuesday January 13, 2026: Last day to add a second-term half course
Monday February 16, 2026: Family Day
Monday March 30, 2026: Last day to drop a second term half course without penalty
Friday April 3, 2026: Good Friday

This course is held entirely online asynchronously. Materials and weekly video updates will be posted on OWL Brightspace every Tuesday night.

Course Instructor	Contact Information	Office Hours
Danny Bednar	dbednar@uwo.ca	By appointment

Teaching Assistant(s)	Student Last Names	Contact Information	Office Hours
Mohan J	A - K	mjoshi65@uwo.ca	By Appointment
Cornelius P	L - Z		By Appointment

☒ Office hours will be held remotely using MS Teams
☒ Students will be able to sign up for an appointment via email
☒ Non-mandatory synchronous sessions may be held at some point during the semester

2. Calendar Description

Survey of human activity in outer space, including history of spaceflight, scientific exploration, economic and military uses of space, natural resources and hazards, legal and ethical implications, and plausible future developments.

3 Lecture hours per week
Prerequisite(s): None
Prerequisite checking is the student's responsibility

Senate Regulations state, “unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.”

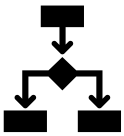
3. Textbook

There is no textbook for this course

4. Course Objectives and Format

The objective of this course is to familiarize students with the history of space exploration, including its scientific, socio-political, economic, and cultural linkages. The course is intended to cover both natural and social science components of humanity’s engagement with outer space for the purposes of scientific exploration.

All course material will be posted to the new OWL Brightspace learning environment: https://westernu.brightspace.com/d2l/home. Any changes will be indicated on the OWL site and discussed with the class.



Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace; what is most important is that you update your browser frequently to ensure it is current. All JavaScript and cookies should be enabled.

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

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5. Learning Outcomes

- Explain the advancement of human engagement with non-Earth spaces and how these engagements have interacted with other geographic processes
- Summarize the key discoveries and findings of major space exploration programs over the past century as well as the evolution of humanity’s scientific understanding of the solar system.

- Evaluate the value and repercussions of past, present, and future space exploration and space technologies to society.
- Recognize the challenges and benefits associated with human and robotic exploration of our solar system.

6. Course Content and Schedule

Week	Dates	Topic*	Readings
1	January 5-8	Introduction	
2	Jan 12-16	Unit 1: Pop Culture & Before the Space Age	Dittmer (2019) Dunnet (2012) MacDonald (2007) Klinger (2021)
3	Jan 19-23		
4	Jan 26-30		
5	Feb 2-6	Unit 2: The Space Race	MacDonald (2008) Dittmer (2019) Sage (2008) Commander (2016)
6	Feb 9-13		
7	Feb 23-27		
8	Mar 2-6	Unit 3: Exploring the Moon & Mars	Sammler & Lynch (2021) Carbajes-Dale & Murphy (2023) Lane (2006) Sagan (1991)
9	Mar 9-13		
10	Mar 16-20		
11	Mar 23-27	Unit 4: Exploring the Solar System	Beery (2012) Kramer (2023) Klinger et al. (2024) Deberdt & Le Billon (2023)
12	Mar 30-3		
13	Apr 6-9		

Full lesson details will be available on OWL

7. Communication

Students should check the OWL site every 24 – 48 hours

A weekly video update will be provided via OWL announcements

For all communication, 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 his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts here.

Emails will be monitored daily; students will typically receive a response within 5 workdays. Students must include both their TA and the instructor on all course emails

This course will use Microsoft Teams for instructor office hours

8. Evaluation

Below is the preliminary evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Format	Weighting	Due Date*
Engagement	OWL Forum Posts	15%	Monthly
Reflection #1	Short Writing Piece	15%	Jan 30
Reflection #2	Short Written Piece	15%	Feb 27
Reflection #3	Short Written Piece	15%	Mar 20
Project	PPT File	40%	Mar 30

The evaluation methods described in the course outline are essential requirements

Students are responsible for material covered in the lectures as well as the assigned texts.

All assignments are due uploaded to OWL at 11:55 pm EST unless otherwise specified.
*See flexibility under Section 9.

Written assignments will be submitted to Turnitin (statement in policies below)

Rubrics will be used to evaluate assessments and will be posted with the instructions

After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

Click here for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.

9. Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: Academic Accommodation for Students with Disabilities.

General Information about missed work:

University policy on academic considerations are described here. This policy requires that all requests for academic considerations must be accompanied by a self-attestation. Further

information about academic considerations, and information about submitting this self-attestation with your academic consideration request may be found here.

Please note that any academic considerations granted in this course will be determined by the instructor, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course outline.

Flexibility statements

All assignments in this course have a flexible deadline. Students are encouraged to treat the first day of the due period window as the target date for completion, allowing the following days of the period to be used in the case of unexpected issues arising.

Please note that because the submission deadline for this assessment [specify] already includes flexibility in the form of [specify flexibility – 48-hour submission window, grace days, etc.], the instructor reserves the right to deny academic consideration for assignments which are submitted following the end of the period of flexibility.

When a student receives academic considerations or academic accommodations which overlap with the built-in flexibility of the assessment, the longest period of accommodation will determine the deadline. The built-in flexibility of the assessment should not be taken to extend any considerations or accommodations.

Absence from Course Commitments

Students must familiarize themselves with the Policy on Academic Consideration – Undergraduate Students in First Entry Programs

Students missing course work for medical, compassionate or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term without supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g. December and April exams) and for practical laboratory and performance tests typically schedule during the last week of the term. Students should also note that the instructor may designate one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course outline. Supporting documentation for academic considerations for absences due to illness should use the Student Medical Certificate or, where that is not possible, equivalent documentation by a health care practitioner.

Course Assessments that Require Supporting Documentation

None

Academic Consideration for Course Components with Flexible Deadlines

This course employs flexible deadlines for assignments. The assignment deadlines can be found above in the course outline. For each assignment, students are expected to submit the assignment by the deadline listed. Should illness or extenuating circumstances arise, students are permitted to submit their assignment up to 72 hours past the deadline without academic penalty. Should students submit their assessment beyond 72 hours past the deadline, a late penalty of 10% per day will be subtracted from the assessed grade. As flexible deadlines are used in this course, requests for academic consideration will not be granted. If you have a long-term academic consideration or an accommodation for disability that allows greater flexibility than provided here, please reach out to your instructor at least one week prior to the posted deadline.

Accommodation for Religious Holidays

Students should review the policy for Accommodation for Religious Holidays. Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

10. Make-up Examinations

N/A

11. Use of Electronic Devices

N/A

12. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

1. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
2. Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
3. Follow weekly checklists created on OWL or create your own to help you stay on track.
4. Take notes as you go through the lesson material. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively.
5. Connect with others. Try forming a study group and try meeting on a weekly basis for study and peer support.
6. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
7. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

13. Use of Generative Artificial Intelligence (AI)

All assignments are expected to be written directly by the student submitting the work without text being developed by generative A.I. or any like-tool.

All analysis of materials is expected to be undertaken by students themselves without the aid or support of generative Ai technology or large language models.

Grading rubrics for each assignment include language allowing for penalizing use of AI applications in writing or analysis.

14. Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

15. Western's Commitment to Accessibility

The Department of Geography and Environment strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities.

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2147 for any specific question regarding an accommodation. Information regarding accommodation of exams is available on the Registrar's website.

More information about "Accessibility at Western" is available.

16. Mental Health

Students who are in emotional/mental distress should refer to Mental Health@Western for a complete list of options about how to obtain help.

17. Support Services

Office of the Registrar
Western's Support Services
Student Development Centre

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.

18. Important Dates

Monday January 5: Classes resume
Tuesday January 13: Last day to add a second term half course
Monday February 16: Family Day – Department Office Closed
February 16-20: Spring Reading Week (No classes; Department Office open)
Monday March 30: Last day to drop a second term half course
Thursday April 9: Classes end
April 10 and 11: Study days
April 12-30: Examination Period