

GEOG 2090A – Space Exploration Course Outline: Section 001 Fall 2024

1. Course Information



Classes Start	Fall Reading Week	Classes End	Study day(s)	Exam Period
September 5	October 14-20	December 6	December 7 & 8	December 9-22

- September 13, 2024: Last day to add a second-term half course
- September 30, 2024: National Day for Truth and Reconciliation (observed as a non-instructional day at Western).
- October 14, 2024: Thanksgiving Holiday
- November 30, 2024: Last day to drop a first term half course without penalty



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

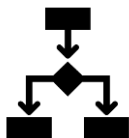
Teaching Assistant(s)	Contact Information	Students
Riley Buist	rbuist@uwo.ca	Last Names A - Fi
Joshua Nwabuisi	cnwabuis@uwo.ca	Last Names Fl - Na
James Thayer	jthayer3@uwo.ca	Last Names Ni - Zh



- Office hours will be held remotely using MS Teams
- Students are able to set up appointments via email

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

The textbook for this course is as follows:

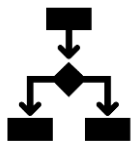


Rother, D.A. (2010). Planets: A very short Introduction. Oxford University Press.

The book is available in physical form (\$14) or as an e-book (\$4) through the Western Bookstore.

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.



Missed work should be completed within 10 days of its initial due date. Assignments will be penalized 10% per day.

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.

Google Chrome or Mozilla Firefox are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

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.

5. Learning Outcomes

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

- 1) Describe the basic timeline and process in which the planets and moons in our solar system formed.
- 2) Explain the advancement of human engagement with non-Earth spaces and how these engagements have interacted with other geographic processes
- 3) 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.
- 4) Evaluate the value and repercussions of past, present, and future space exploration and space technologies to society.
- 5) Recognize the challenges and benefits associated with human and robotic exploration of our solar system



6. Course Content and Schedule (subject to minor changes)

Week	Dates	Lesson (90 Mins)	Podcast (45 Mins)	Reading	Assignment Due
1	Sept 5-6	Course Intro	Reading Discussion	Klinger (2021)	
2	Sept 9-13	The Formation of the Solar System	Space Club - 2024 in Space Exploration	Rothery (2010): Chapter 1	
3	Sept 16-20	The Geography of the Solar System	Space Club - The Mars Mission Draft	Rothery (2010): Chapters 5 & 6	Sept 20-23 Summary PPT # 1
4	Sept 23-27	Antiquity to WWII	Reading Discussion	Lane (2006)	
5	Sept 30 – Oct 4	The Space Race	Reading Discussion	Neufeld (2002)	
6	Oct 7-11	Apollo	Reading Discussion	Commander (2019)	Oct 9-11 Summary PPT #2
Oct 14-18		Fall Reading Week	N/A	N/A	
7	Oct 21-25	Exploring the Moon	Reading Discussion	Carbajales-Dale & Murphy (2023)	
8	Oct 28 – Nov 1	Exploring Mars	Reading Discussion	Uhran et al. (2019)	
9	Nov 4-8	The Inner Solar System	Space Club – Mercury & Venus	Rothery (2010): Chapter 2	
10	Nov 11-15	The Outer Solar System	Space Club – 2025 in Space Exploration	Rothery (2010): Chapters 3 & 4	Nov 15-18 Summary PPT #3
11	Nov 18-22	Space Exploration & Fiction	Reading Discussion	Hatzivassiloiou (2021)	
12	Nov 25-29	Space Exploration and the Future	Reading Discussion	Dunnet et al. (2019)	Dec 6 – Final Project

7. Communication



- ☒ Students should check the OWL site every weekday
- ☒ A weekly update will be provided on the 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 receive a response in 48-72 hours

8. Evaluation

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

Assessment	Format	Weighting	Due Date
Summary e #1	PPT	20%	Sept 20-23
Summary #2	PPT	20%	Oct 9-11
Summary #3	PPT	20%	Nov 15-18
Final Project	Written Essay	40%	Dec 6

- The evaluation methods described in this course outline are essential requirements for the course.
- Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text.
- All assignments are due at 11:55 pm EST unless otherwise specified
- Written assignments will be submitted to Turnitin (statement in policies below)
- Instructions and grading rubrics will be used to evaluate assessments and will be posted on OWL
- After an assessment is returned, students must wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days
- Students must contact their TA first, before contacting the instructor. Students must cc their TAs on all email correspondence with the professor regarding grades.



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.

Formal Documentation Designation statement:

Please note that the final project is considered to be central to the learning objectives for this course. Accordingly, students seeking academic consideration for this assessment will be required to provide formal supporting documentation. Students who are granted academic consideration for this assessment will be provided with the following opportunity to make up this work:

Flexibility statements

In order for students to submit summary assignments AFTER the flexible due dates, they will require supporting documentation.

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

For this course the following assessment has been designated as requiring supporting documentation:

Assessment	Format	Weighting	Due Date
Final Project	Written Report	40%	Dec 6

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. 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.

13. 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.



14. 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.

15. Mental Health

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit Western's [Health and Wellness website](#) for more information on mental health resources.

16. Support Services

[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.

17. Important Dates

September 5: Classes resume

September 13: Last day to add a first term half course

October 14: Thanksgiving Holiday – Department Office Closed

October 14-20: Fall Reading Week (No classes; Department Office open)

November 30: Last day to drop a first term half course or a full course without penalty

December 6: Classes end

December 7 and 8: Study days

December 9-22: Examination Period