

Astronomy 1021: General Astronomy Course Outline 2024-2025

*Note: This Course Outline is a living document that is sometimes updated with minor changes. Such updates will be announced in class, and the latest version will be posted on OWL Brightspace. The version number can be found at the bottom of each page. **It is your responsibility to ensure that you have the most recent version of this document.** The information on this handout contains information for both sections . All registered students are expected to have read this course outline carefully.*

1. Course Information

Course Information

Course title: Astronomy 1021: General Astronomy
 Description: A general survey of astronomy, including: the Solar System and its constituents; stars, their basic properties and evolution; systems of stars including clusters, the Milky Way and other galaxies; the Universe, its past, present and future structure; astronomical instruments; topics of current interest including pulsars, quasars, black holes.
 3 lecture hours, 1.0 course
 Prerequisites: None
 Antirequisites: Astronomy 1011A/B

Unless you have either the requisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Counselling) to enroll in it, you may 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.

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Dr. Sarah Gallagher Course Coordinator Evening (Sec 1), Fall	sgalla4@uwo.ca		(519) 661-2111 x86707	
Cole Gregg, MSc Afternoon (Sec 2), Fall	cgregg2@uwo.ca			

Dr. Jan Cami Course Coordinator Evening and Afternoon, Winter	jcami@uwo.ca		(519) 661-2111 x80978	TBD
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Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

Before contacting the instructor, make sure you have carefully read this document. Questions that are addressed in this document will not be answered over email.

Office Hours: If the time posted in the table does not work, you can make an appointment for another day/time. If you prefer an appointment with a TA, contact them through OWL

3. Course Syllabus, Schedule, Delivery Mode

Astronomy 1021 provides a general, non-mathematical introduction to Astronomy. A preliminary list of lecture topics can be found on OWL. Specific learning outcomes are listed in a separate document. At the end of this course, students should be able to:

- Know by name, define and characterize the main structural elements of the Universe at all scales.
- Describe the origin and evolution of the Universe and objects within that Universe.
- Have a good sense of relative sizes, distances and characteristic time scales associated with these objects.
- Demonstrate a conceptual understanding of those physical processes that determine the appearance and evolution of astronomical objects and those that are relevant for interpreting astronomical observations.
- Explain the scientific method, and use examples from astronomy in their appropriate cultural context.
- Assess the uniqueness of Earth and life on Earth by comparison with other planets and properties of known planetary systems.

Lectures are in person, as listed in Section 1. A syllabus with topics and dates will be posted on OWL.

Key sessional dates:

Fall classes begin: September 5, 2024

Fall reading week: October 12 – 20, 2024

Fall classes end: December 6, 2024

Winter classes begin: January 6, 2025

Winter reading week: February 17 – 21, 2025

Spring classes end: April 4, 2025

Spring exam period: April 7 – 30, 2025

There is no December exam for this class.

4. Course Materials

Textbook package: The textbook package **should be purchased from the Western bookstore.** If it

is not purchased from the Western bookstore, you will lose access to the electronic resources before the end of the course. The instructors will not be able fix this problem for you.

“Modified Mastering Astronomy with Pearson e-Text – Standalone Access Card -- for **The Essential Cosmic Perspective**”, by Bennet, Donahue, Schneider & Voit (Pearson) 9780135795798.

This package contains an **access code** for the online Mastering Astronomy platform that you will need for homework assignments. The e-book version of the textbook comes with the digital resource.

All additional 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](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

In-class activities will use the iClicker Cloud audience response system for participation and active learning. You may use any Wi-Fi capable device (smartphone, tablet, laptop). More information about setting up the iClicker Cloud system can be found here: <https://wts.uwo.ca/iclicker/> and will be covered in class. In addition, for some of in-class activities, access to a laptop may be preferred.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Tests and Exam	75%
Term Test 1	20%
Term Test 2	20%
Final Exam	35%
Projects (2)	5%
Participation in Class	10%
Homework Assignments (12)	10%

The Department of Physics and Astronomy may, in rare cases, adjust the final course marks in order to conform to Departmental policy.

Grades for various components will be posted on OWL regularly; it is your responsibility to check these grades regularly. Any errors, or appeals to your scores, **must be reported to your instructor within two weeks** of their initial posting.

Tests and Exams

There will be two 100-min long Term Tests during the year and one Final Exam. There is **no December exam** in this course.

Writing the make-up requires documentation and prior approval; see below.

The final exam is to be scheduled by the Registrar's Office during the 2025 final examination period (April 7-30, 2025); exam times will be posted on the course website when available.

Students needing to make travel arrangements are advised to book a travel date after the end of the examination period, and avoiding the term test dates. ***No makeup exams will be given to accommodate travel!***

The tests and exams are meant to test your ***knowledge and understanding*** of the material covered in class, all of the class slides and activities, the corresponding textbook sections and distributed course notes whenever appropriate.

Term Test 1 covers all the course material up to the date of the test; Term Test 2 covers all material since Term Test 1. **The final exam is cumulative.**

Projects

There will be two projects, one in the Fall Term, and one in the Winter Term. The total mark for both projects is 5%, and each project will be weighted 2% or 3%, with the larger weight going to the project with the higher mark. The due dates for each project are in the syllabus table. **There is no penalty for handing them in late, but they must be submitted by the last day of class in the term in which they were assigned. Academic Consideration requests may be granted only for extenuating circumstances that started before the deadline and lasted longer than the No-Late-Penalty Period (until the last day of classes in the term of the assignments).**

Participation in Class

Every week, there will be hands-on in-class activities about the course material, and the instructor will also ask questions to test your understanding throughout the lectures, using the iClicker Cloud platform. You need to answer at least 75% of the questions each week to earn a full participation grade for a class. Only the best 18 scores (1 score per 3 hrs (1 wk) of lecture) over the full year will be used for your grade calculations. **Because of this completion flexibility, there will be no granting of Academic Consideration requests for in-class participation marks.**

Mastering Astronomy Homework Assignments (12)

On average every two weeks, a homework assignment will be due on Mastering Astronomy. These assignments can be completed at any computer connected to the Internet, including at home. Before you can do the assignments, you must first register on Mastering Astronomy, and then enroll in the course on that platform. Instructions are on OWL. The course ID is **gallagher86676**.

Most of the homework assignments will be in the form of tutorials and are meant to help you process and understand the course material. Due dates will be listed on the Mastering Astronomy platform and are also listed in the detailed course overview at the end of this document. Those dates are “best before” dates, i.e., they will help you most in your learning if you do them before that date. Late assignments are accepted, as long as they are completed by the last day of classes in the semester in which they are due. For example, all assignments with due dates in the Fall must be submitted by Dec. 6, 2024. There will be 12 assignments total, and each counted assignment will be worth 1.0% of your course grade. Only the best 10 out of 12 assignments will be used toward your final grade. This also means that you can forego two Mastering Astronomy assignments without penalty. **Academic Consideration requests may be granted only for extenuating circumstances that started before the deadline and lasted longer than the No-Late-Penalty Period (until the last day of classes in the term of the assignments).**

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](#).

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:

- Examinations scheduled during official examination periods (defined by policy)
- Term Tests 1 and 2

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

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.

Essential Learning Requirements

Even when Academic Considerations are granted for missed coursework, the following are deemed essential to earn a passing grade. You must

1. obtain a final mark of at least 50% ***and***
2. obtain a passing mark on the Tests and Exam component -- i.e. you need to score at least 37.5 out of 75 on the combined exams (two term tests and the final exam).

If you do not meet the second requirement, your final mark for this course will be lowered to a failing grade (e.g., 45% or the computed final mark, whichever is lower), irrespective of your score on other components.

Thus, a student who fails both Term Tests and the final exam automatically fails the course, even if the final mark (including other course components) is higher than 50%. Note though that failing a single exam or even two does not automatically mean a student fails the course. For instance, a student that obtains 40% on Term Test 1, 45% on Term Test 2 and 60% on the final exam has earned 38 of the 75 points represented by the tests and exams, and will thus pass the course despite failing two exams, provided that they obtain at least 12 out of the remaining 25 points from the other course components (and thus have a final mark of at least 50%).

6. Classroom Conduct

The instructor will ask for ~5 volunteers the first week of class to become Student Liaisons who will meet with the instructor twice per term to provide feedback on the class. Snacks will be provided!

The lectures in this course are intended to provide students with an opportunity to learn, and we expect you to respect the rights of your classmates to benefit from the lectures by limiting your conversations to those essential to the class. Please arrive on time, switch off your cell phone notifications, and do not leave during the lectures, except during the breaks. Laptops should only be used for taking notes or in-class activities, and not for any other application. Disruptive behavior in class or on OWL will not be tolerated. Students who persist in loud, rude or otherwise disruptive or inappropriate behavior will be asked to leave.

For further information on the Code of Student Conduct, please see:

<http://www.uwo.ca/univsec/pdf/board/code.pdf>

7. Your Grade

You earn your grade for completing course requirements, and for having gained a good knowledge and understanding of the course material. To maximize this grade, you should:

1. read the assigned textbook reading before each class;

2. attend class regularly, participate actively and ask questions!;
3. review past lectures regularly;
4. do the projects and Mastering Astronomy assignments on time;
5. answer all of the summary questions in your textbook;
6. check the Frequently Asked Questions (FAQs) on the course website and follow discussions in each unit;
7. seek regular help for material that you do not understand.

On average, this should take up about 6—9 hours per week for this course. In addition, it pays off to learn how to best approach writing multiple choice exams. Helpful tips are provided on the website of the Student Development Centre <http://www.sdc.uwo.ca/learning/index.html?mcwrit>.

If you find that you are falling behind or are having difficulties with the course material, please contact your instructor or a TA immediately. A lot can be done in November, much less can be done in March.

Marks will be posted to OWL regularly. Any appeals must be made in writing to the instructor within two weeks of marks being posted to OWL

8. Additional Statements

Religious Accommodation

When conflicts 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 or 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>.

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.

Academic Policies

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

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 e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

No electronic devices are permitted during tests and exams.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

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

Support Services

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

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (<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.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

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