

Department of Physics and Astronomy
Astronomy 1021: General Astronomy
Course Outline 2026–2027

*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 in this document applies to both sections (Sec 001 – Tuesday evening; Sec 002 – Tuesday/Thursday afternoons). All registered students are expected to have read this course outline carefully.*

1. 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.

Lecture times and locations:

EVENING — Section 001: Tuesday 7:00–10:00 pm, AHB-1R40

AFTERNOON — Section 002: Tuesday 3:30–4:30 pm & Thursday 3:30–5:30 pm, MC-105B

Prerequisites: None

Antirequisites: Astronomy 1011A/B

Unless you have either the requisites for this course or written special permission from the Department of Physics and Astronomy to enroll in it, you may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on your academic record. This decision may not be appealed. You will receive no adjustment to your fees if you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructors	Email (@uwo.ca)	Office	Phone	Office Hours
Dr. Jan Cami <i>Course Coordinator</i> Fall, Winter	jcam	PAB 203	(519) 661-2111 x80978	By appointment
Dr. Margaret Campbell-Brown Fall term only	mcampb33	PAB 239	(519) 661-2111 x86712	TBD
Dr. Els Peeters Winter term only	epeeters	PAB 206	(519) 661-2111 x80973	TBD

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. It is recommended to start the subject line with “[Astro 1021]”.

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: office hours for 2026–27 will be announced in class and posted on OWL at the start of term. If the posted time does not work for you, you can make an appointment for another day/time.

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 at the beginning of each unit, and can also be found in a separate document that is also available on OWL. 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 above (Section 1). A syllabus with topics and dates is posted on OWL. Note that both sections cover identical material and write identical assessments; in the Fall term, each block of course content starts on a Thursday for Section 002 (whose first class is Thursday, September 10) and is covered by Section 001 the following Tuesday evening.

Key sessional dates:

Fall classes begin: September 9, 2026 (first classes: Sec 002 — Thu Sept 10; Sec 001 — Tue Sept 15)

Thanksgiving & Fall Reading Week: October 10–18, 2026

Last day of Fall classes: December 9, 2026

Winter classes resume: January 4, 2027

Winter Reading Week: February 13–21, 2027

Last day of Winter classes: April 9, 2027

Final exam period: April 12–30, 2027

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 to fix this problem for you.

“Essential Cosmic Perspective Ebook Mastering 365-Day Access”, by Bennett, Donahue, Schneider & Voit (Pearson, 9E), ISBN 9780135408940. Approximate cost: \$80. You can find it in the Western bookstore at <https://bookstore.uwo.ca/product/cebcodeid52291>. You can also find a direct link on the course OWL web site.

This package contains an access code for the online Mastering Astronomy platform that you will need for the homework assignments; the e-book version of the textbook comes with the digital resource. Mastering Astronomy is accessed through links within the course OWL Brightspace site. Other than the textbook package, there are no required course materials with a cost: the iClicker Cloud system used for in-class participation is free for students (see Technical Requirements below).

All additional course material will be posted to OWL: <https://westernu.brightspace.com/>. Students are responsible for checking the course OWL site 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 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 you already own (smartphone, tablet, laptop); iClicker Cloud is free for Western students, and there is no cost associated with its use in this course. More information about setting up the iClicker Cloud system can be found at <https://wts.uwo.ca/iclicker/> and will be covered in class. For some in-class activities, access to a laptop may be preferred.

iClicker responses are collected solely to record your in-class participation and are used only for calculating your participation grade; individual response data are visible only to the instructional team and are handled in accordance with Western's privacy policies. Your iClicker account may be used only by you: submitting responses on behalf of another student, or having someone submit responses on your behalf, constitutes a scholastic offence.

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 the various components will be posted on OWL regularly; it is your responsibility to check these grades regularly. Any errors or concerns about your scores **must be reported in writing to your instructor within two weeks** of their initial posting.

Tests and Exams

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

The dates for the Term Tests are given below. Each section writes its test after completing the units the test covers; there is no regular lecture for your section on the date of your section's test.

Term Test 1 (covers Units 1–6):

Afternoon (Section 002): Thursday, Nov 12, 2026, 3:30–5:10 pm

Evening (Section 001): Tuesday, Nov 17, 2026, 7:30–9:10 pm

Term Test 2 (covers Units 7–14):

Evening (Section 001): Tuesday, Feb 9, 2027, 7:30–9:10 pm

Afternoon (Section 002): Thursday, Feb 11, 2027, 3:30–5:10 pm

The final exam is cumulative and will be scheduled by the Registrar's Office during the 2027 final examination period (April 12–30, 2027); 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, avoiding the term test dates. ***No alternate sittings 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. Use the learning outcomes for your preparation.

There is no makeup test for a missed Term Test. The Term Tests are designated as flexible completion assessments. If you miss a Term Test, its weight will shift automatically to your Final Exam grade; and if your Final Exam grade is higher than your grade on a Term Test you wrote, your Final Exam grade will replace that test's weight in your overall grade (implemented automatically through the Brightspace grade calculation). You do not need to request Academic Consideration for a missed Term Test, and such requests will not be adjudicated; the reweighting is applied automatically and uniformly. Note that writing a test can therefore never lower your course grade: you are strongly encouraged to write every test, even when you are not at your best.

The only exception is an **early sitting**, offered solely for a university-sanctioned schedule conflict (e.g., a conflict of two tests, Varsity competitions) or a religious accommodation that prevents you from writing the test at its scheduled time. If you require this accommodation, you must notify your instructor in writing no later than one week before the test. No other circumstance, including illness, qualifies for an early sitting or a makeup; these are addressed through the automatic reweighting described above.

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 are in the syllabus table: Project 1 is due Friday, Oct 30, 2026, and Project 2 is due Friday, Apr 2, 2027.

Each project deadline includes an automatic **48-hour no-late-penalty period**: submissions are accepted without penalty until 11:59 pm two days after the due date (Sunday, Nov 1, 2026, and Sunday, Apr 4, 2027, respectively). After this period, no submission is accepted. The projects are flexible completion assessments: you do not need to (and cannot) request Academic Consideration for a missed project. If you complete only one project, it counts for 3% and the remaining 2% shifts to your Final Exam; if you complete neither, the full 5% shifts to your Final Exam.

Participation in Class

There will be hands-on in-class activities about the course material, and the instructor will also ask questions every week 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 that week. 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. Participation marks are earned for answering, not for answering correctly.

This is a flexible completion component: you do not need to (and cannot) request Academic Consideration for missed participation marks. If you attend fewer than 18 weeks, the missing scores are recorded as zeros in the component average; if your Final Exam grade is higher than your participation component average, your Final Exam grade will replace it.

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. Mastering Astronomy is accessed through the links in the course OWL Brightspace site; instructions are on OWL. Most of the homework assignments are in the form of tutorials and are meant to help you process and understand the course material.

There will be 12 assignments in total, and each counted assignment is worth 1.0% of your course grade. Only the best 10 out of 12 assignments count toward your final grade: you can miss two assignments without any penalty and without any request. Due dates are listed in the detailed course syllabus; assignments are generally due **Friday 11:59 pm** (exceptions: MA #6 is due Wednesday, Dec 9, 2026, and MA #12 is due Thursday, Mar 25, 2027). The assignments will help you most in your learning if you do them before their due date.

Each deadline includes an automatic **48-hour no-late-penalty period**: submissions are accepted without penalty until 11:59 pm two days after the due date, after which no submission is accepted. This is a flexible completion component: you do not need to (and cannot) request Academic Consideration for missed assignments. If you complete fewer than 10 assignments, the missing slots are recorded as zeros in the component average; if your Final Exam grade is higher than your Mastering Astronomy component average, your Final Exam grade will replace it. You are encouraged to submit all work, even if incomplete: a partial mark is always better than a zero.

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](#).

In this course, all term work — the Term Tests, projects, in-class participation, and Mastering Astronomy assignments — is designated as **flexible completion** coursework, as described in the sections above. Missed term work is handled automatically through the stated flexibility (best-of grading, weight shifts, and 48-hour no-late-penalty periods); no Academic Consideration requests are needed for these components, and none will be adjudicated.

The Final Exam is the only assessment in this course for which an Academic Consideration request can be made.

Such requests always require supporting documentation and must be submitted through the Student Absence Portal (SAP) within 48 hours of the exam. 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/.

Evaluation Scheme for Missed Assessments

No makeup opportunities are available for any term work. A missed Term Test's weight shifts automatically to the Final Exam; missed projects and Mastering Astronomy assignments are handled as described in their respective sections; there are no makeup opportunities for in-class participation.

When a student misses the Final Exam and their Academic Consideration request has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam), scheduled per university policy. See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period. A student who subsequently misses the Special Examination with approved Academic Consideration will be withdrawn from the course without academic penalty; in extenuating circumstances, they may appeal to the Associate Dean (Academic), on a case-by-case basis, for the opportunity to write the final exam the next time the course is offered.

Essential Learning Requirements

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

- obtain a final mark of at least 50% **and**
- obtain a passing mark on the Tests and Exam component — i.e., a weighted average of at least 50% on the Term Tests and Final Exam, as weighted in your own grade calculation. This component represents at least 75% of your course grade, and more when weight from other components shifts to your Final Exam under the flexible completion rules above.

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 whose weighted exam average is below 50% automatically fails the course, even if their final mark (including the other course components) would otherwise be higher than 50%. Note that because of the automatic reweighting, a Term Test grade only counts toward this average when it is higher than your Final Exam grade: your weighted exam average is therefore never lower than your Final Exam grade, and writing a Term Test can only ever raise it. Failing an individual exam does not automatically mean failing the course. For instance, a student who obtains 62% on Term Test 1, 58% on Term Test 2 and 44% on the Final Exam has a weighted exam average of $(20 \times 62 + 20 \times 58 + 35 \times 44) / 75 \approx 52.5\%$, and thus meets this requirement despite failing the Final Exam; they will pass the course provided their overall final mark is 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 behaviour in class or on OWL will not be tolerated. Students who persist in loud, rude or otherwise disruptive or inappropriate behaviour 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:

- read the assigned textbook reading before each class;
- attend class regularly, participate actively and ask questions!;
- review past lectures regularly;
- do the projects and Mastering Astronomy assignments on time;
- answer all of the summary questions in your textbook;
- check the Frequently Asked Questions (FAQs) on the course website and follow discussions in each unit;
- 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 errors or concerns about posted marks must be raised in writing with the instructor within two weeks of the marks being posted to OWL.

8. Additional Statements

Religious Accommodation

When a recognized religious holiday either requires you to be absent from the University, or requires or prohibits an activity that makes it impossible for you to complete an academic requirement scheduled that day, you are entitled to accommodation, in accordance with the University's policy on Accommodation for Religious Holidays:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf. Submit your request through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected.

Term Tests: if a religious observance conflicts with a Term Test, you must submit your request no later than one week before the test. Your instructor will arrange an early sitting of the test. As set out in Section 5, no makeup test is offered for any other reason; this early sitting is available specifically for this accommodation.

Final Examination: if a religious observance conflicts with the final exam, you must submit your request no later than two weeks before the exam. Your instructor will arrange a Special Examination to take place no later than one month after the end of the examination period.

For a list of recognized religious observances, please visit the calendars posted on the Equity, Diversity & Inclusion website: <https://www.edi.uwo.ca> (About Us – Resources – Additional Resources – Calendars).

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%20Accommodation_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.

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the possession of unauthorized electronic devices during any in-person assessment (such as tests and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, hidden cameras and wireless earbuds. Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at your desk, on your person, or within reach during an assessment will be treated as a scholastic offence, even if the device is not in use.

Effective September 2026, the typical penalty for this offence is a failing grade in the course AND a 12-month prohibition on retaking the course.

Only devices expressly permitted by the instructor may be brought into the assessment room. It is your responsibility to review and comply with these expectations.

Use of Generative AI Tools

Students may use generative AI tools (e.g., ChatGPT, Claude, Microsoft Copilot, Google Gemini, or similar platforms) to support their learning in this course, and are encouraged to do so where it genuinely helps — for example, to get explanations, generate practice questions, or test their understanding. AI use is permitted in completing the Mastering Astronomy assignments and the projects.

Be aware, however, that 75% of your grade comes from in-person, proctored tests and exams where no AI tools (or any electronic devices) are available: there, you will be tested on your own knowledge and understanding of the course material. If you let AI do your thinking during the term, the exams will reveal it.

For any assessment where AI use is not permitted — including the Term Tests and the Final Exam — using such tools will be treated as a scholastic offence. If you are unsure whether AI use is permitted for a particular piece of work, ask your instructor before using it.

The instructors use generative AI tools in the preparation of some course materials (e.g., drafting and revising lecture materials, questions, and course improvements); all such materials are reviewed and verified by the instructors. AI is not used to grade student work.

Scholastic Offences

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

https://uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_offences.pdf, and the Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.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.

Requests for Relief (formerly known as “Appeals”)

Policy on Request for Relief from Academic Decisions:

https://uwo.ca/univsec/pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf.

Procedures on Request for Relief from Academic Decisions (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf.

Support Services

Academic Advising. Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic consideration for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/advising/>.

Mental Health Support. 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.

Gender-Based and Sexual Violence. 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 gender-based or sexual 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.

Accessibility for Coursework. 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 Development and Success. 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.

Student Councils. Student-run support services are offered by the University Students' Council (<https://westernusc.ca/services/>) and the Science Students' Council (<https://www.westernssc.ca>).