



Department of Physics & Astronomy

Astronomy 2801A Course Outline: Fall 2026

1. Course Information

Academic Term: Fall 2026

Lectures: Tuesdays 12:30-2:20 PM, in HSB11

Tutorials: Thursdays 1:30-3:20 PM in HSB11

List of Prerequisites:

One of either Physics 1201A/B or Physics 1401A/B or Physics 1501A/B, or the former Physics 1028A/B or the former Physics 1301A/B; one of either Calculus 1000A/B or Calculus 1500A/B or Numerical and Mathematical Methods 1412A/B or the former Applied Mathematics 1412A/B; and one of either Calculus 1501A/B, or Calculus 1301A/B, or Applied Mathematics 1201A/B with a minimum mark of 60%, or Numerical and Mathematical Methods 1414A/B, or the former Applied Mathematics 1414A/B.

Unless students have either the prerequisites for this course or written special permission from the Department of Physics & Astronomy to enroll in it, they may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on their academic record. This decision may not be appealed.

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Dr. Shahram Abbassi (Course Coordinator)	sabbassi@uwo.ca	PAB270	N/A	Monday 2-4 PM, or by appt
Dr. Pauline Barmby	pbarmby@uwo.ca	PAB204/138D	x81557	Friday 2-4pm, or by appt
TA – TBD		TBD	TBD	TBD

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. We will do our best respond to emails within 24 business hours, not including weekends or holidays.

3. Course Syllabus, Schedule, Delivery Mode

The properties of stars, the building blocks of the universe, and how we obtain their characteristics. The night sky, coordinates, detectors, telescopes, stellar magnitudes and fluxes, spectra, interaction of light

and matter, Hertzsprung-Russell diagram, stellar evolution, and the Sun. Introduction to astrophysics, order of magnitude estimates, astronomical nomenclature and observations.

Course-level learning outcomes

By the end of this course, students will be able to:

- recognize and identify basic astronomical objects
- describe the parts of and calculate the performance of telescopes
- explain how astronomical coordinate systems related to the location of objects in the sky
- define the fundamental properties of stars and how they are measured
- explain how stars form, produce energy and change over their lifetimes
- describe the contents and history of stellar structures including star clusters and the Milky Way

4. Course Materials

Textbook and Other Learning Materials

Required textbook: Fraknoi, Morrison & Wolff's [Astronomy \(OpenStax\), second edition](#). This online textbook can be accessed through the course OWL website or the link above. Paper copies of the textbook can be ordered through the openstax.org website for an additional fee but are not required.

iTelescope: students will use the iTelescope network to collect astronomical data. An additional fee (\$35) for use of the iTelescope network is charged with tuition.

Gradescope: Written assignments in the course such as the tutorial worksheets will be submitted via the gradescope.ca website. Gradescope will accept scans or photos of handwritten assignment pages. These will be accessed by the TAs to grade, and marks and feedback will be returned to the student via Gradescope. There is no fee to use Gradescope.

All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/>. Students are responsible for checking the course OWL Brightspace 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 Brightspace 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.

Course materials are copyrighted to the instructors. You are not permitted to distribute, share in any public domain, upload to public generative AI systems, or sell any course materials without prior written consent of the instructors.

Technical Requirements

Students are required to have either a Mac or Windows computer. Much of the hands-on component of this class requires computer processing and analysis.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

Tutorial Assignments (best 4 of 6), due weekly	20%	
Midterm Test	20%	in class time on November 10, 2026
Research Project	20%	due in early December
Final Exam	40%	

Generative AI by assessment: Unless the instructors state otherwise in the instructions for a specific assessment, generative AI tools are not permitted for tutorial assignments, the Research Project report or poster, the midterm test, or the final examination. Any permitted use and its conditions will be stated in advance.

Please note: The Department of Physics and Astronomy may, in exceptional cases, adjust the final course marks in order to conform to Departmental policy. Final grades will be rounded to the nearest integer, and grades ending in 9 (eg. 69) are not automatically “bumped up” by 1 mark.

Research project: This course is directed towards teaching you how to use a modern telescope and analyze the results. Your research project will involve planning the observing strategy for a target assigned to you by the instructors, programming the required actions into the telescope controls, monitoring the collection of the data as it is being taken, retrieving the final images from the observatory server, analyzing the results, and presenting them. The format of the Research Project presentation will be announced on OWL and is expected to include a written report and a poster presentation, with 50% of project marks for each.

Tentative List of Topics

Please see separate “Astronomy 2801A Topic Schedule” document.

Essential Learning Requirements

The following is an essential learning requirement for this course:

- completion of the Research Project with a minimum mark of 50%

The Research Project assesses learning outcomes that are unique and essential to the course. A student who does not complete this requirement cannot meet the course requirements and will be withdrawn (WDN) from the course by default. The student may submit a Request for Relief to the Associate Dean (Academic) for reinstatement with an Incomplete (INC) standing. Where the Request for Relief is granted, their maximum course load may be reduced during the term in which they complete the outstanding course requirements.

Flexible Completion and Academic Consideration

The University Academic Consideration policy applies to the final examination. Policy:

https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

Flexible-completion summary: Students do not submit Academic Consideration requests for in-term assessments in this course. A missed midterm shifts automatically to the cumulative final exam; tutorial assignments use the best 4 of 6 with the automatic reweighting described below; and take-home work

includes the 48-hour no-late-penalty period. The Research Project remains an essential learning requirement and must be completed.

Information about Academic Consideration procedures and the Student Absence Portal is available from the Office of the Registrar: https://registrar.uwo.ca/academics/academic_considerations/

The final examination is the only absence that requires supporting documentation and use of the Student Absence Portal (SAP), subject to University policy. Religious accommodations and university-sanctioned schedule conflicts are handled separately below.

Midterms and Tests

The midterm test is designated as a **flexible-completion assessment**. This course has ONE midterm test and a **cumulative** final exam. There is no makeup test for a missed midterm. If a student misses the midterm, its weight will shift automatically to the final exam. If the final exam grade is higher than the midterm grade, the final exam grade will replace the midterm contribution to the overall course grade. Students do not need to request Academic Consideration for a missed midterm; the reweighting will be done automatically.

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

Tutorial Assignments

This course has 6 tutorial assignments, designated as flexible-completion assessments. The best 4 of 6 submissions will be used to calculate this component. Students may miss up to 2 tutorial assignments without requesting Academic Consideration; those missed items are excluded from the calculation, and the component grade is based on the best 4 submissions.

If a student completes fewer than 4 tutorial assignments, any unfilled slots needed to reach four will be recorded as zeros and included in the component average. Students are encouraged to submit all work, even if incomplete, since a partial mark is always preferable to a zero. If the final exam grade is higher than the tutorial-assignment component average, the final exam grade will replace this component in the overall course grade.

Deadlines: The 48-Hour No-Late-Penalty Period

All take-home assignments, quizzes, labs, and other take-home course components with a stated due date include an automatic 48-hour no-late-penalty period. For example, if an assignment is due on November 5, it may be submitted until November 7 without penalty. After this 48-hour period, no further submissions will be accepted. Students do not need to request Academic Consideration for a missed deadline; the grade or weight is handled according to the flexible-completion rules for the relevant assessment category.

Research Project Report and Poster Presentation

The Research Project (written report and poster presentation) is an essential learning requirement of this course and must be completed with a minimum project mark of 50%. These components assess learning outcomes that are not fully evaluated by the midterm or final examination. The written report, when

assigned a stated due date, is subject to the automatic 48-hour no-late-penalty period described above. Academic Consideration is not used to waive completion of the Research Project. A student who does not complete the essential project requirements will be withdrawn (WDN) from the course by default and may submit a Request for Relief to the Associate Dean (Academic) for an Incomplete (INC) standing, in accordance with Faculty policy.

Special Examination

Per university policy, Academic Consideration requests with supporting documentation are required for the final examinations scheduled during official examination periods by the Registrar's Office.

If the student has been approved by the Academic Advising Office to write a Special Examination (SPC) and the final exam is their only outstanding course component, an SPC will be assigned to them and scheduled by the instructor per university policy.

If the student misses their SPC exam and is approved for Academic Consideration, they will be withdrawn from the course without academic penalty. If they experienced extenuating circumstances such as prolonged illness, they may submit a Request for Relief 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. An outstanding SPC will reduce their course load for the term in which the exam is deferred, as outlined in the Definitions of Types of Examinations policy.

If the student misses their SPC exam and Academic Consideration is not approved, or was not requested, they will receive a grade of zero on the exam.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday either requires a student to be absent from the University, or requires or prohibits an activity that makes it impossible for them to complete an academic requirement scheduled that day, they are entitled to accommodation. No student will be penalized for an absence for religious reasons, and an alternative means of satisfying the requirement will be arranged. This accommodation is provided in accordance with the University's policy on Accommodation for Religious Holidays:

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

The student should submit their requests through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected (e.g., test, midterm, exam).

Midterms and Tests: Because the midterm is worth 20%, an approved religious conflict is treated as a scheduling conflict under the Faculty of Science framework. The request must be submitted through the Student Absence Portal (SAP) no later than one week before the test, and the instructor will arrange an alternative sitting, normally an early sitting. Automatic reweighting to the final exam is not used for an approved religious scheduling conflict.

Final Examinations: If a religious observance conflicts with the final exam, the student must submit their request no later than **two weeks** before the exam. Their instructor will arrange a Special Examination to take place no later than one month after the end of the examination period.

Students are responsible for finding out what was covered in any class they miss due to a religious observance, and for taking the appropriate steps to keep up with the course.

If a suitable arrangement cannot be reached between a student and their instructor, they should consult the Undergraduate Chair of the department offering the course, and if necessary, the Associate Dean (Academic) of the Faculty of Science.

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).

6.2 Academic 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.

6.3 General Academic Policies

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

Use of @uwo.ca email: 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 email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief

Policy on Request for Relief from Academic Decision:

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

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

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

6.4 Scholastic Offences

Policy on Scholastic Offences:

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

Procedures on Scholastic Offences (Undergraduate):

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

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, midterms, 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 a student's desk, on their 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 (e.g., non-programmable calculators) may be brought into the assessment room. It is their responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is the student's responsibility to seek clarification before using any AI tools in academic work.

6.5 Support Services

Academic Advising. Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations 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 (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If a student has experienced GBSV (either recently or in the past), they can 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. A student may contact the course instructor if they require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to them. If they have any questions regarding accommodations, they may also contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

Learning Development and Success. Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help students improve their learning skills. The facility offers 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>) and the Science Students' Council (<https://www.westernssc.ca>).

This course outline is subject to change. Last updated Wednesday, September 2, 2026.