# ASTR-100 – Astronomy

**University Arts and Science**

**Effective Term & Year:** Fall 2022
**Course Outline Review Date:** 2024-04-01

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**Program Area:** Math and Sciences

**Description:**

This course presents an overview of historical and modern astronomical knowledge. Topics include telescope design, astronomical methods, the planets of the solar system, the life cycle of stars, and our place among the galaxies. The accompanying lab introduces students to night sky observation and real world experience with astronomical photography.

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**Program Information:**

This course can be used as a lab science credit in Arts, Business Management, or for Associate degrees, but it may not be acceptable for transfer to some science programs for lab science credit.

**Delivery Methods:** On-campus (Face-to-Face)

**Credit Type:** College of the Rockies Credits

**Credits:** 3

**Course type/s:** Sciences, Lab Sciences

**Instructional Activity and Hours:**

| Activity | Hours |
|---|---|
| Classroom, Directed Studies or Online Instruction | 45 |
| Seminar/Tutorials | |
| Laboratory/Studio | 45 |
| Practicum/Field Experience | |

| | |
|---|---|
| Co-op/Work Experience | |
| Other | |
| Total | 90 |

**Course Requisites:**

None

**Flexible Assessment:** Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

**Course Transfer Credit:**

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columba or elsewhere should go to the College of the Rockies Enrolment Services office.

**Textbook Resources:**

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Openstax: Astronomy. Fraknoi, Morrison, and Wolff

*Please see the instructor's syllabus or check COTR's online text calculator https://textbook.cotr.bc.ca/ for a complete list of the currently required textbooks.*

**Learning Outcomes:**

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

- describe motions of the major elements of the Celestial Sphere: Planets, Stars, the ecliptic;
- recognize and locate seasonal constellations in the sky;
- describe the structure, position, moons, surface and atmosphere of the Sun's planets;
- summarize theories of origin for the Solar System, galaxy, and universe;
- describe the life cycle of stars;
- describe a star's source of energy;
- analyze astronomical data using computers;
- set up a telescope and SLR camera to capture images of targeted stars and planets; and
- apply mathematics to describe gravitationally bound systems.

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**Course Topics:**

- Astronomical methodology
- Our Planetary System
- Stars and Stellar Life Cycles
- Galaxies and Cosmologies

*See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.*

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## Evaluation and Assessments

**Assessment Type: On-Campus (face-to-face)**

| Assessment Type | % of Total Grade |
|---|---|
| Assignments & projects | 20% |
| Labs | 30% |
| Midterms | 20% |
| Final Exam | 30% |
| Total | 100% |

## Grade Scheme

| A+ | A | A- | B+ | B | B- | C+ | C | C- | D | F |
|---|---|---|---|---|---|---|---|---|---|---|
| >=90 | 89-85 | 84-80 | 79-76 | 75-72 | 71-68 | 67-64 | 63-60 | 59-55 | 54-50 | <50 |

**Evaluation Notes:** A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

**Evaluation Notes Comments:**

*Please see the instructor syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments, and use of electronic aids.*

Note: The laboratory must be satisfactorily completed to get credit for the course (for example, if the laboratory is incomplete, the final grade is still incomplete).

**Exam Attendance:**

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a “0” on the exam.

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**Academic Policies:**

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

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**Course Changes:**

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.