



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF PHYSICS & ASTRONOMY
COURSE OUTLINE

1. **Course:** ASTR 207, Intro To Astr I-The Solar System -- Fall 2018

Instructor Name	Email	Phone	Office	Hours
L01: (TR 15:30 - 16:45 in ST 148)				
Rachid Ouyed	rouyed@ucalgary.ca	403-220-8418	SB 515	Tuesdays and Thursdays: 14:00- 15:00 (Room: SB 512)

(a) Course Description

(Introduction to Astronomy – the solar system) gives an overview of the solar system that includes history of astronomy, observational aspects such as time keeping, eclipses, motion of the moon and planets, planetary geology, and the formation of the solar system. ASTR 207 contains some mathematics in the formulation of concepts such as angular size, time keeping and Kepler’s Third Law. Science literacy and the process of science will be discussed in the context of solar system science and planetary geology.

We discuss the Earth’s place in the universe, and the Sun as the star of the solar system. The apparent and orbital motion of the moon and planets are discussed, along with basic celestial coordinates, and eclipses and tides. The history of astronomy from antiquity to the modern age will be discussed. The nebular hypothesis for the formation of the solar system and the origin of terrestrial planets and gas giants will be presented. Planetary geology will discuss similarities and differences between the terrestrial planets, including different forms of tectonics, impact craters and geological age of a surface, erosion, volcanism, chemical differentiation, planetary atmospheres and magnetism. Composition, weather and magnetism of gas giants are discussed, as well as the composition and geology of the moons of the Jovian planets. Small solar system objects including dwarf planets, asteroids, and comets (time permitting) are discussed.

Course Site:

D2L: ASTR 207 L01-(Fall 2018)-IntroToAstrI-TheSolarSystem

Department of Physics & Astronomy:

Office: Science B 605
Phone: 403 220-5385
Email: phasoffice@ucalgary.ca

Note:

Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Homework (8 assignments)	32	See instructions below
Midterm 1	17	Oct. 11
Midterm 2	17	Nov. 8
Final	34	TBD

HOMEWORK: There will be eight web-based homework assignments in *Mastering Astronomy*.

ACCESS TO MASTERING ASTRONOMY: Students can obtain access to the Mastering Astronomy system in one of three ways:

1. *Normal access.* Purchase a new textbook at the Campus Bookstore. An Access code for Mastering Astronomy will be included. You will have access to the full Mastering Astronomy website including assignments, E-text and study centre.
2. *Electronic Text.* Purchase an electronic version of the text plus access to Mastering Astronomy. You will have access to the full Mastering Astronomy website including assignments, E-text and study centre.
3. *Assignment only access.* Access only the Mastering Astronomy homework assignments, free of charge. You will not have access to the E-text or to the study centre. The instructions for this option will be given in class and posted on the ASTR207 D2L website.

STUDENTS PERSONAL INFORMATION IN MASTERING ASTRONOMY:

Students are responsible for accurately and completely entering their personal information in the Mastering Astronomy system. Failure to do so may result in a delay of posting the course grade or a zero grade for the assignments.

LATE ASSIGNMENTS:

1. Late Assignments will be awarded a zero grade. There will be a 24 hour period after the due date over which the maximum obtainable grade will decrease to zero. Extensions of the due date require justification in the form of a doctor's note or equivalent.
2. Students are responsible for accurately and completely entering their personal information in the Mastering Astronomy system. Failure to do so may result in a delay of posting the course grade or a zero grade for the assignments.

Each of the above components will be given a letter grade using the official university grading system. The final grade will be calculated using the grade point equivalents weighted by the percentages given above and then converted to a final letter grade using the official university grade point equivalents.

This course has a registrar scheduled final exam.

4. Missed Components of Term Work:

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself/themself with these regulations. See also [Section E.3](#) of the University Calendar.

5. Scheduled out-of-class activities:

There are no scheduled out of class activities for this course.

6. Course Materials:

Required Textbook(s):

Bennett, Donahue, Schneider & Voit,, *The Cosmic Perspective - The Solar System, 8th edition* : Addison-Wesley

WARNING: Be sure to buy the Solar System edition of this book, or the complete edition that includes all chapters. You may notice some missing chapter numbers in the Solar System edition. This is normal, because it is just a part of a complete, more expensive, text. *We do not cover chapters outside the Solar System edition in ASTR 207.*

TopHat: ASTR 207 will **NOT** make use of the TopHat system.

7. Examination Policy:

The midterm exams and the final exam will cover every component of the course, including sections of the textbook, lectures and notes posted on D2L. This also includes topical lectures that explore subjects in more detail than the textbook. Refer to notes posted on D2L. Midterm 1 includes Sections 1-6 while Midterm 2 includes Sections 7-12. The Final Exam is cumulative.

The midterm exams will be written during regular class time in the regular lecture theatre. They will be multiple-choice tests with a writing time of 60 minutes. The percentage score is calculated as the number of correct answers, divided by the number of questions on the test, expressed as a percentage. The scores for the tests are used in the calculation of the final course grade according to the weights listed above. University of Calgary exam regulations apply during the in-class tests. *The tests are closed-book.* Use of a calculator is recommended.

The Final exam will be scheduled by the registrar. The final exam will be a 3-hour multiple-choice exam. The score for the final exam will be calculated as the number of correct answers divided by the number of questions on the exam, expressed as a percentage. The percentage grade for the final exam will be used in the calculation of the course grade with the weight given above. *The exam is closed-book.* Use of a calculator is recommended.

A pocket calculator is recommended for the in-class tests and the final exam. Scientific calculators with advanced mathematical functions are not required, but they may be helpful to those who know how to use them. Use of calculator applications on mobile communication devices or other devices with data storage or access to the internet on the tests and the final exam is strictly prohibited. *When in doubt, students should check with the instructor well before the first in-class test.* Graph capabilities of calculators are not used in ASTR 207.

Students should also read the Calendar, [Section G](#), on Examinations.

8. Approved Mandatory and Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

9. Writing across the Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also [Section E.2](#) of the University Calendar.

10. Human studies statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. Reappraisal of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- 1. Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
- 2. Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- a. Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208).
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. **These are only examples.**
- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- f. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).
- Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Physics & Astronomy, Dr. David Feder by email phas.ahugrd@ucalgary.ca or phone 403-220-8127. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- g. **Safewalk:** Campus Security will escort individuals day or night (See the [Campus Safewalk](#) website). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- i. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: suvpaca@ucalgary.ca.
- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

Syllabus

The Scale and History of the Universe

The Sun, Earth's Seasons and the Moon

The Copernican Revolution

Newton's Laws

The Solar System

Properties of Light and Matter; Telescopes

Explaining Features of the Solar System

Planetary Interiors and Surfaces

Planetary Atmospheres

Jovian Planets

Asteroids, Meteorites and Comets

Exo-planets

Life in the Universe

Course incomes :

Some mathematics will be used in ASTR 207. Basic knowledge of Algebra and Trigonometry is *essential* for this course. Most questions (2/3) on the assignments, tests and the final exam will focus on knowledge and understanding of concepts. A few questions (1/3) will require math, but remember that all questions will be multiple-choice. We will spend time in the lectures to explain mathematics that may appear on the exam.

Department Approval:

Electronically Approved

Date: 2018-08-24 14:33

Course Outcomes

- Students will be able to describe the features of the solar system and the formation process of the solar system.
- Students will be able to explain how ideas have changed from ancient times to today.
- Students will be able to describe the electromagnetic spectrum; telescopes and detectors, and explain the basic properties of laws of planetary motion; planets, asteroids, comets, and the Sun.