



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

1. Course: ASTR 209, Lec 01, Introduction to Astronomy II: The Cosmos

Lecture Sections:

L01: T Th, 2:00-3:15, ST 140

Instructor: Prof. R. Plume

Office: Science B 517

Tel. No. 220-6909

e-mail address: rplume@ucalgary.ca

Office Hours: W 2:30 – 4:30

Course website: http://www.ism.ucalgary.ca/Star_Formation/AST209/AST209.html

Departmental Office: SB 605, 403-220-5385, phasugrd@ucalgary.ca

2. Prerequisites: Not open to students with credit in Astronomy 205, 213 or Astrophysics 213. Not recommended for physical science majors.

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

Assignments (~5)	20%
Midterm Test 1	15% (In Class: Feb 24)
Midterm Test 2	15% (In Class: Mar 24)
Final Examination	50% (3 hours: To be scheduled by the Registrar)

A grade of 50% or greater on the final exam is necessary to obtain a passing grade in the course.

Percentage to letter grade conversion scale:

> = 95 %	A +	> = 80 %	B +	> = 65 %	C +	> = 50 %	D +
> = 90 %	A	> = 75 %	B	> = 60 %	C	> = 45 %	D
> = 85 %	A -	> = 70 %	B -	> = 55 %	C -	< 45 %	F

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 with these regulations. See also [Section E.6](#) of the University Calendar

5. Scheduled out-of-class activities: None

6. Course Materials: "ASTRONOMY TODAY, 7th or 8th ed Volume II : Stars & Galaxies by Chaisson & McMillan

Online Course Components: Course note and materials are available on the course website. All Homework will be done on the online assessment system called "Master Astronomy". See course website on how to sign into the system.

7. Examination Policy All exams will be closed book exams. Formulae sheets will be provided as part of the exam material. Any kind of calculator is allowed (even programmable ones). However, calculator apps on cell phones are not allowed (since all cell phones should be turned off and put away). Students should also read the Calendar, [Section G](#), on Examinations.

11. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **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.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: Students with Disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html> [B.1](#) and Student Accessibility Services: <http://www.ucalgary.ca/access/>.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, 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 also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 220-3911 Email: suypaca@ucalgary.ca.
SU Faculty Rep. Phone: 220-3913 Email: sciencerep@su.ucalgary.ca; [Student Ombudsman](#)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ Date _____

COURSE SYLLABUS

Part 1 - Fundamentals of Astronomy & Physics (History, Parallax, Kepler's Laws, Newton's laws, Orbital Motion)

Part 2 - Light, the Electromagnetic Spectrum, & Telescopes (Wavelength vs Frequency, Black Body Radiation, Hydrogen Atom, Spectral Lines, Kirchoff's Laws, Doppler Shift, Telescopes, Radio Astronomy, Interferometry)

Part 3 – Stars (the Sun, Proton-Proton Chain, Stellar Classification & the HR Diagram, Distance Determination Methods, Binary Stars)

Part 4 – The Interstellar Medium and Star Formation (the Atomic & Molecular ISM, Reflection & Emission Nebulae, Star Formation, Planet Formation, Extrasolar Planets)

Part 5 – Stellar Evolution (Post Main Sequence Evolution, Giant stars, Planetary Nebulae, White Dwarfs, Novae, Supernovae,

Part 6 – The Deaths of Stars and General Relativity (Neutron Stars, Pulsars, Black Holes, General Relativity and Spacetime)