

UNIVERSITY OF CALGARY
DEPARTMENT OF PHYSICS and ASTRONOMY
COURSE OUTLINE

1. **ASPH 507/607, Lec 01, Senior Astrophysics Laboratory**

Lecture Sections:

L01: TuTh, 11:00 - 11:50, KNB128, **Instructor: Dr. R. Plume, Office:** Science B 605, **Phone:** 220-5385, **email:** plume@ras.ucalgary.ca, **Office Hours: call 220-5385 for an appointment**

Course Website: http://www.ism.ucalgary.ca/Star_Formation/ASPH507_607/ASPH507_607.html

BLACKBOARD IS NOT USED FOR THIS COURSE

2. **PREREQUISITES:** Astrophysics 213 and any 400-level ASPH course

3. **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:

- 10% - RAO Observing Proposal: (Due Jan 25)
- 25% - Lab 1 (Due Feb 15)
- 25% - Lab 2 (Due Mar 15)
- 25% - Observing project (Due April 12)
- 15% - Final in class Oral Report on Observing project (April 12 & 14)

Each piece of work (assignment, laboratory report, midterm test or final examination) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade. The conversion between course percentage and letter grade is given in the syllabus below.

NOTE – No individual component of the course will have its grade scaled or "curved". However, the **final** grade for the course may be scaled or "curved" upwards at the discretion of the instructor. Final grades will never be scaled lower.

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: <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html>. It is the student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

5. **Some Laboratory/Observational work will be required at the Rothney Astrophysical Observatory (RAO) which will be scheduled at the students discretion with the approval of the RAO Director.**

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **TEXTBOOK: None Required**

7. **EXAMINATION POLICY:** [Statement regarding aids allowed on tests and examinations (e.g., calculator, open book, etc.)] Students are encouraged to read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.

Department Approval _____

Date _____

Associate Dean's Approval for
out of regular class-time activity: _____

Date: _____

11. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **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 K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) 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 at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.
- (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links:
Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
Disability Resource Centre: <http://www.ucalgary.ca/drc/>
- (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 will be 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:** suvpaca@ucalgary.ca.
SU Faculty Rep. **Phone:** 220-3913 **Email:** sciencerep@su.ucalgary.ca Website <http://www.su.ucalgary.ca/home/contact.html>.
Student Ombudsman: <http://www.su.ucalgary.ca/services/student-services/student-rights.html>
- (i) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** 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.

COURSE SYLLABUS

1. Introduction to Instrumentation at the RAO
2. Demonstration of spectral line analysis using STARLINK
3. Radiative Transfer & Molecular Astrophysics
4. Overview of ADS and the CDMS databases
5. Radio Receivers & Antennae
6. Demonstration of STARLINKS aperture photometry
7. Interferometry
8. CCDs & Photometry (if time allows)

Conversion between course percentage and letter grades:

95 - 100%	A+
90 - 94.9%	A
85 - 89.9%	A-
80 - 84.9%	B+
75 - 79.9%	B
70 - 74.9%	B-
65 - 69.9%	C+
60 - 64.9%	C
55 - 59.9%	C-
50 - 54.9%	D+
45 - 49.9%	D
0 - 44.9%	F