

UNIVERSITY OF CALGARY
DEPARTMENT OF PHYSICS and ASTRONOMY
COURSE OUTLINE Astrophysics 307 (Intro to Observational Astrophysics)

1. Lecture Sections:

Dr. Phil Langill

L01 : MWF 11:00 - 11:50 : ES 054

Office: SB 507, 220-5402

Office hours will vary slightly over the semester, and details will be provided weekly

Course Websites: <https://blackboard.ucalgary.ca/webapps/login> ucalgary.ca/courses/f13/ASPH307

Main Physics Office: SB 605, 220-5385

2. Prerequisites: Physics 211 or 221 or 227 or Engineering 202 and Physics 255 or 259 or 323.

Note: The Faculty of Science policy on pre- and co-requisite checking is outlined in the 2013-2014 Calendar. A student may not register in a course unless a grade at least "C-" has been obtained in each pre-requisite course; it is the responsibility of students to ensure that their registrations are in order. See <http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html> for details.

3. Grading: In determining the overall grade in the course the following weights will be used;

Textbook Assignments: 20% Observing Projects and Labs: 30%

Midterm Exam: 18% Final Exam: 30% THM (in class): 2%

NOTE: Overall course percentage grade to course letter grade conversion is discussed on the following pages

The University policy on grading and related matters is also found in the UofC Calendar. Details can be found at;
<http://www.ucalgary.ca/pubs/calendar/current/f.html>

4. Missed Components of Term Work. The regulations of the Faculty of Science pertaining to this matter are outlined in the UofC Calendar at; <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html> It is each student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

5. Out-of-class-time activities: Data for lab work is acquired using telescopes and detectors at the Rothney Astrophysical Observatory. Some of this equipment is remotely accessible, and data can be collected from campus. Some labs will require students to go to the observatory. This component of the course is done outside of class time, and will be carefully coordinated by Dr. Langill and course Teaching Assistants.

6. TEXTBOOK: "*To Measure the Sky*". F.R. Chromey, Cambridge University Press 2010

7. Examinations: Midterm Exam will be held on Friday Oct. 18th - venue TBA.
Students are expected to make every effort to attend this exam. If you have a legitimate conflict, you must inform Dr. Langill at least 2 weeks prior to the exam so that alternative arrangements may be made for you. Rules pertaining to the use of calculators, and other devices, during exams will be discussed in lecture. Students are encouraged to read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.

8. Course fees: There are no additional fees required to take Asph 307.

9. Writing across the curriculum: In this course, the quality of the student's writing in laboratory reports will factor in the evaluation of those reports. See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

10. Human studies: Students in this course are not expected to participate as subjects or researchers.
See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

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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 (FOIPPA). 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/category/authors/faculty-reps>.
Student Ombudsman: <http://www.ucalgary.ca/provost/students/ombuds>
- (g) **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.

OTHER COURSE RELATED INFORMATION

1. Course Description

Lectures and practical laboratory sessions in observational astronomy. Students will collect, reduce, and interpret astronomical data, develop an understanding of telescopes, instruments, and detectors; reduction and analysis methods; simulations and model fitting; data and error analysis. Observations will be carried out at the Rothney Astrophysical Observatory and/or the main campus.

2. Topics covered

A wide range of topics will be discussed in this course. These include, but are not restricted to;

- Brief review of astronomical basics
- Aspects of light and matter
- Measurements and uncertainty
- Optics and telescopes
- CCDs, spectrographs, and other detectors
- Digital image processing

OTHER COURSE RELATED INFORMATION (con't)

3. TopHat Monocle 'CLICKERS'

As a vehicle to encourage class participation and student interaction as well as providing instructors with rapid, in-class feedback, the TopHat Monocle System will be employed. **The TopHat course name is Asph307Fall2013L01.** The first week of classes will be treated as a test period only.

This is an opportunity to answer questions in class – anonymously. The type and number of “response questions” you will encounter over the semester is at the sole discretion of your instructor. Participate and you can earn a mark of up to 2% toward your overall course grade. If students make any attempt to answer a question they get 1 mark, and if they get the answer correct they get 1 more mark. Such questions are worth 2 marks. Some of the questions asked will not have a specific correct answer and are worth 1 mark. The bonus mark a student gets will be the total marks they earned over the semester divided by the maximum mark obtainable, times 2%. Clicker stats will be officially accumulated starting Monday Sept. 16th.

4. COURSE GRADES

Overall Asph 307 percentages are converted into a final course letter grade using the following thresholds:

92% - 100%	A+	75% - 80%	B+	60% - 65%	C+	45% - 50%	D+
85% - 92%	A	70% - 75%	B	55% - 60%	C	40% - 45%	D
80% - 85%	A-	65% - 70%	B-	50% - 55%	C-	00% - 40%	F

Policy regarding missed elements of term work: Students who miss a lab (assignment) because of ill health, or for other valid reasons, will be granted an excused absence by their Instructor provided that alleged problems are supported in writing by a person in a position of authority (physician, counselor, etc.).