



**UNIVERSITY OF CALGARY  
DEPARTMENT OF PHYSICS AND ASTRONOMY  
COURSE INFORMATION SHEET**

**Astronomy 209: Introduction to Astronomy II – The Cosmos**

Lecture/Time/Session(s): Room EEEL 161 Tuesday, Thursday, 3:00 – 5:50 pm, SUMMER 2013

1. Instructor: Dr. Ian Lovatt Email: [ilovatt@mtroyal.ca](mailto:ilovatt@mtroyal.ca) (**NOT** the U of C address!)  
Office Hours: Tuesday, Thursday 6 - 7 p.m. EEEL 161  
Main Physics and Astronomy Office: SB 605, 220-5385

2. Prerequisite: not open to students with credit in Astronomy 205, 213, or Astrophysics 213.

Note: The Faculty of Science policy on pre- and co-requisite checking is outlined in the CURRENT 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.

4 The University policy on grading and related matters is described in the CURRENT Calendar. In determining the overall grade in the course the following weights will be used:

Final Exam (Thurs Aug 15, 2 hours)	40%
Test 1 (in class, first hour, Thurs July 25)	25%
Observing Exercises (5; see below)	20%
assignments (3; see below)	15%

4. Missed Components of Term Work. The regulations of the Faculty of Science pertaining to this matter are outlined in the CURRENT Calendar. It is the student's responsibility to familiarize himself/herself with these regulations.

**Textbook:** "*Astronomy Today; vol. II (Stars and Galaxies)*," 7<sup>th</sup> Edition, Chaisson and McMillan, Pearson Publ., 2011

**IMPORTANT/SAFEWALK:** Campus Security will escort individuals day or night. Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

**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 the heading "Student Misconduct (pages 49-53 for 2009-2010).**

**FOIP:** This course will be conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). 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.

**STUDENT UNION INFORMATION:** VP Academic Phone: 220- 3911 Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)  
SU Faculty Rep. Phone: 220 3913 Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca)

IL/Ih  
12/08/14

**Tests**

There will be one in-class tests, consisting of multiple-choice questions. The test will be given during the first hour of class on Thursday July 25. I will post the solutions on Blackboard.

**Assignments**

I will post the assignments on Blackboard. Each assignment consists of multiple-choice questions. Pick up bubble-sheets in class. I will post the solutions on Blackboard.

The due dates are:

- |    |               |                    |
|----|---------------|--------------------|
| 1. | Assignment #1 | Thursday July 11   |
| 2. | Assignment #2 | Thursday August 1  |
| 3. | Assignment #3 | Thursday August 13 |

**Observing Exercises**

There are 5 (five) observing exercises posted on Blackboard. The instructions are intended to be explicit, so I will not formally discuss these exercises in class. Nevertheless, if you have questions, ask.

**Additional Information on Tests and Exams**

All tests and exams are closed-book. Calculators are allowed; cell phones are not.

**Further Information on Course Structure**

The course stresses conceptual understanding without mathematical derivation. Science, however, is quantitative, and we describe the Universe mathematically. Consequently, the course will involve some arithmetic.

### Tentative Schedule of Lectures

Date	Topic	Text Chapter Chaisson & McMillan, 7 <sup>th</sup> ed.
July 2,4	<b>OBSERVING EXERCISE #1 (COUNTING STARS) DUE ON JULY 4</b> apparent motions of the Sun, stars, planets Ptolemy, Copernicus, Brahe, Galileo, Newton	1, 2
July 9, 11, 16	<b>OBSERVING EXERCISE #2 (PARALLAX) DUE ON JULY 9</b> <b>ASSIGNMENT #1 DUE JULY 11</b> light, the Sun	3, 4, 16
July 16, 18, 23	<b>OBSERVING EXERCISE #3 (JUPITER'S MASS) DUE ON JULY 19</b> properties of stars	17
July 23	properties of stars, evolution of stars	17, 19 - 21
July 25	<b>TEST</b>	
July 25	evolution of stars of stars	19 – 21
July 30	neutron stars, black holes	22
August 1	<b>ASSIGNMENT #2 DUE AUGUST 1</b> galaxies	23 – 25
August 6, 8	<b>OBSERVING EXERCISE #4 (SPECTRA) DUE AUGUST 6</b> cosmology	26, 27
August 13	<b>ASSIGNMENT #3 DUE AUGUST 13</b> <b>OBSERVING EXERCISE #5 (NORTERN STARS) DUE AUGUST 13</b> telescopes	5
<b>FINAL EXAM AUGUST 15</b>		

**NOTE #1:** The above is a wish-list. We may not have time to cover all of these topics. You are responsible for

- material I cover in class, and
- material I EXPLICITLY tell you to read on your own.

**NOTE #2:** Despite the large list of topics on the wish-list, the course is flexible enough to cover some topics not explicitly listed. If you want to discuss a particular topic, tell me and I will try to work it into the course.