

UNIVERSITY OF CALGARY  
DEPARTMENT OF PHYSICS and ASTRONOMY  
**COURSE OUTLINE**

1. **ASTR 207, Introduction to Astronomy – The Solar System**

**Lecture section: L21:** TuTh, 12:00-14:45, EEEL 210. **Dr. J.K. Biel,** Office: SB 508, Tel. No.: 403-239-7077, e-mail address: [biel@ucalgary.ca](mailto:biel@ucalgary.ca), Consultation hours: TuTh, 15:00-16:00.

Course documents will be posted on blackboard: <http://blackboard.ucalgary.ca>  
Department of Physics and Astronomy, Science B, SB 605, 403-220-5385, [office@phas.ucalgary.ca](mailto:office@phas.ucalgary.ca)

2. **PREREQUISITES:** None. Not open to students with credit in ASTR 205 or ASTR 211.

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:

Assignments (7)	25%	(Assignment due dates are listed in Additional Course Information sheet)
Midterm test	30%	(Thursday, June 05 during class)
Final Examination	45%	(To be scheduled by the Registrar)

**Students who receive a weighted mean mark less than 40% over the Midterm and Final Examination should not expect to receive a course grade higher than “D+”.**

Percentage grades will be given for all assignments and examinations. A weighted course percentage will be calculated for each student after the final exam is written. A table of conversion from final course percentage to final course letter grade is printed in the Additional Course Information sheet.

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. **TEXTBOOK:** The Cosmic Perspective – The Solar System (6-th edition) by J. Bennett, M. Donahue, N. Schneider and M. Voit, Addison-Wesley.

6. **EXAMINATION POLICY:** Examinations are closed book. Calculators must not have wireless communication. 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](mailto:suvpaca@ucalgary.ca).  
SU Faculty Rep. **Phone:** 220-3913 **Email:** [sciencerep@su.ucalgary.ca](mailto: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.

JKB/clh

May 09, 2012

## Additional Course Information

**Textbook:** The Cosmic Perspective – The Solar System (6-th edition) by J. Bennett, M. Donahue, N. Schneider and M. Voit, Addison-Wesley. The text is available in the university bookstore. There are missing pages in “The Solar System” edition, and chapters 15-23 are missing. This is all right. We do not need these chapters in ASTR 207. There is, however, a complete addition which includes all chapters.

**Web assignments:** Students who buy a new copy of “The Cosmic Perspective – The Solar System” will find an access kit to an electronic tutorial system, **MasteringAstronomy (MA)**. The web address of the system is: [www.mastringastronomy.com](http://www.mastringastronomy.com), and our MA course name on this website is: UOFCSPRING2012ASTR207.

Students are responsible for getting registered to the MA. To log in you will need an access code, which is packaged with your new copy of the 6-th edition of the text. Alternatively, you can purchase an access code separately at the U of C bookstore. During the registration you will also need the course ID that has been set as: MABIELSPRING2012. It is important that you also enter you University of Calgary ID number as well as your e-mail address.

We will use the MA system for all our on-line assignments. The first assignment will be not for credit. It will be a practice assignment that will familiarize you with the system. All other on-line assignments will be graded. The tentative schedule of the assignments is:

Assignment #1	Do it as soon as possible.
Assignment #2	Sunday, May 18 at 11:59.
Assignment #3	Sunday, May 25 at 11:59.
Assignment #4	Sunday, June 01 at 11:59.
Assignment #5	Sunday, June 08 at 11:59.
Assignment #6	Sunday, June 15 at 11:59.
Assignment #7	Sunday, June 22 at 11:59.

Beside the assignments I will post on MA system six Tutorial Set Problems for practice. These will be not for credit and no due dates will be assigned to them. You will have access to the solutions of these tutorial problems.

**Midterm:** Will be held on Tuesday, June 05. It will start at 12:00 and will last 90 minutes. It will cover the material of the first five lectures.

**Final Exam:** Will be scheduled by the Registrar Office sometime between: June 26 – June 28. The exam will be cumulative. Thus, it will cover lectures and lecture notes posted on blackboard as well as the parts of the text assigned to read on your own.

Both examinations are closed book. Calculators must not have wireless communication.

**Grades:** The assignments will be graded by the MA system. When you register to the system your name will be added to an electronic grade book that will keep track of your assignment marks throughout the spring term. Entering your University of Calgary ID number and the e-mail address during the registration to the MA system allows linking your assignments grades to your examination grades. You will be able to check your marks on a website the address of which will be communicated to you in the second week of lectures.

All marks that appear on the website will be used to determine each student's overall grade. Check your marks frequently. Missing and incorrectly posted term work marks should be reported to the course Instructor as soon as they are noticed. Overall ASTR 207 percentages will be converted into a final course letter grade using the following thresholds.

90%	A+	85%	A	80%	A-
75%	B+	70%	B	65%	B-
60%	C+	55%	C	50%	C-
47%	D+	45%	D	<45%	F

**This tentative lecture schedule lists your text sections that will be covered on each lecture.**

Thursday, May 10

- 1.1 Our modern view of the universe
- 1.2 The scale of the universe
- 1.3 Spaceship Earth
- 1.4 The human adventure of astronomy

Tuesday, May 15

- 2.1 Patterns in the sky
- 2.2 The reason for season
- 2.3 The Moon our constant companion
- 2.4 The ancient mystery of the planets

Thursday, May 17

- 3.1 The ancient roots of science
- 3.2 Ancient Greek science
- 3.3 The Copernican revolution
- S1.1 Astronomical time periods

Tuesday, May 22

- 4.1 Describing motion: Examples from daily life
- 4.2 Newton's laws of motion
- 4.3 Conservation laws in astronomy
- 4.4 The universal law of gravitation
- 4.5 Orbits, tides and the acceleration of gravity

Thursday, May 24

- 5.1 Light in everyday life
- 5.2 Properties of light
- 5.3 Properties of matter
- 5.4 Learning from light
- 5.5 The Doppler effect

Tuesday, May 29

- 6.1 Eyes and cameras: Everyday light sensors
- 6.2 Telescopes: Giant eyes
- 6.3 Telescopes and the atmosphere
- 6.4 Telescopes and technology

Thursday, May 31

Midterm Exam starts at 12:00. Duration: 90 minutes.  
The rest of the time, 45 minutes will be used to bridge the topics of the preceding and the subsequent lectures.

Tuesday, June 05

- 7.1 Studying the Solar system
  - 7.2 Patterns in the Solar System
  - 7.3 Spacecraft exploration of the Solar system
- Some topics from planetary geology and atmosphere:  
Mercury, Mars, Venus, Jovian planet system.

Thursday, June 07

- 8.1 The search for origins
- 8.2 The birth of the Solar System
- 8.3 The formation of planets
- 8.4 The aftermath of planet formation
- 8.5 The age of the Solar System

Tuesday, June 12

- 12.1 Asteroids and meteorites
- 12.2 Comets
- 12.3 Pluto: Lone dog no more
- 12.4 Cosmic collisions

Thursday, June 14

- 13.1 Detecting extra-solar planets
- 13.2 The nature of the extra-solar planets
- 13.3 The formation of other solar systems
- 13.4 Finding more new worlds

Tuesday, June 19

- 14.1 A closer look at the Sun
- 14.2 The cosmic crucible
- 14.3 The Sun-Earth connection

Thursday, June 21

- 24.1 Life on Earth
- 24.2 Life in the Solar System
- 24.3 Life around other stars
- 24.4 The search for extraterrestrial intelligence
- 24.5 Interstellar travel and its implications to civilization

These are the wish topics to be covered. We may not have time to cover all of them. You may need to read some parts of the text on your own. This will be communicated to you during the lectures.