



The University of Southern Queensland

Course specification

Description: Astrophysics						
Subject	Cat-nbr	Class	Term	Mode	Units	Campus
PHY	2204	40971	1, 2005	ONC	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	2
ASCED code:	010303

STAFFING

Examiner: Brad Carter
Moderator: Alfio Parisi

RATIONALE

This course provides an in-depth study of the solar system, to allow students to gain a thorough understanding of the world on which we live. The subject matter is interdisciplinary in nature, and may be taken by any student interested in how astronomy can provide insight into our origins and future on planet Earth.

SYNOPSIS

This course provides an in-depth cosmic perspective on our origins, current existence, and future on planet Earth. We study the building of our planetary system, and its subsequent evolution. The Earth is compared in detail with other planets, to help us understand our own world. We study the origins of life on Earth, and prospects for finding extraterrestrial life. We also investigate how astronomical influences affect planets such as our own. The topics covered in the course include: Solar system overview; Formation and evolution of the solar system; Planets and their interiors, surfaces, atmospheres and climates. Meteorites, asteroids and comets; Life on Earth and elsewhere.

OBJECTIVES

On completion of this course students will be able to:

1. demonstrate knowledge of the diverse nature of our solar system;
2. explain how the solar system has formed and evolved;
3. apply physical laws to solve basic problems in planetary science;
4. analytically compare Earth with other planets;
5. synthesise ideas about the origins of life on Earth to draw conclusions about the prospects for extraterrestrial life.
6. evaluate the evidence for astronomical influences on the Earth.

TOPICS

Description	Weighting (%)
1. Solar System properties	20.00
2. Origin & evolution of the solar system	20.00
3. Comparison of Earth with other planets	20.00
4. Life on earth and the search for alien life	20.00
5. Astronomical influences on the Earth	20.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

Hartmann, William K & Impey, Chris 2002, *Astronomy: The Cosmic Journey*, 6th edn, Thomson Learning, Brooks/Cole, Pacific Grove.

(ISBN 0-534-38249-5 http://www.brookscole.com/astronomy_d/)

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Sky & Telescope, Sky Publishing, Belmont, MA, USA.

(Periodical. www.skyandtelescope.com)

Sky & space, Sky & Space magazine, 80 Ebley Street, Bondi Junction, NSW 2022.

(Periodical available from Newsagents.)

Beatty, J, Kelly, Petersen Carolyn C and Chaikin, Andrew (eds) 1999, *The New Solar System*, 4th edn, Sky Publishing Corp, New York.

(ISBN 0-933346-86-7)

Cole, George H A and Woolfson, Michael M 2002, *Planetary Science: The Science of Planets Arounds Stars*, 1st edn, Institute of Physics Publishing, Bristol and Philadelphia.

(ISBN 0 7503 0815X. Suppliers: Marston Book Services Ltd, PO Box 269, Abingdon, Oxon, OX14 4YN, UK. <http://bookmarkphysics.iop.org/bookpge.htm?>)

Fraknoi, Andrew, Morrison, David & Wolff, Sidney 2000, *Voyages Through the Universe*, 2nd edn, Saunders College Publishing, Fort Worth.

(http://www.brookscole.com/astronomy_d/ ISBN 0030328667)

Hartmann, William K 1999, *Moons & Planets*, 4th edn, Wadsworth Publishing Company, Belmont, California.

(ISBN 0-534-54630-7, QB601.H34 http://www.brookscole.com/astronomy_d/)

Kitchin, Cr 2003, *Astrophysical Techniques*, Institute of Physics Publishing, Bristol and Philadelphia.

Lang, Kenneth R 1995, *Sun, Earth and sky*, Springer-Verlag, Berlin.

(Corrected printing, softcover. ISBN 3-540-62808-8)

Sagan, Carl 1994, *Pale Blue Dot: A Vision of the Human Future in Space*, Random House, New York.

Weissman, Paul R, McFadden, Lucy-Ann & Johnson, Torrence V 1999, *Encyclopedia of the Solar System*, Academic Press, San Diego.

(<http://www.academicpress.com/solar/> ISBN 0-12-226805-9)

Zeilik, M & Gregory, SA 1998, *Introductory Astronomy & Astrophysics*, Saunders College Publishing, USA.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assignments	40.00
Examinations	2.00
Private Study	80.00
Workshops	48.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT 1	20.00	20.00	01 Mar 2005 (see note 1)
ASSIGNMENT 2	20.00	20.00	01 Mar 2005 (see note 2)
2HR RESTRICTED EXAM	60.00	60.00	END S1 (see note 3)

NOTES

1. Examiner to advise date of assignment 1
2. Examiner to advise date of assignment 2
3. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:

To complete each of the assignments satisfactorily, students must obtain at least 50% of the marks available for each assignment. To complete the examination satisfactorily, students must obtain at least 50% of the marks available for the examination.

- 3 Penalties for late submission of required work:
If students submit assignments after the due date without prior approval then a penalty of 20% of the total marks gained by the student for the assignment will apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must submit all of the summative assessment items and achieve at least 50% of the available weighted marks for those items.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.
- 6 Examination information:
In a Restricted Examination, candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination; English translation dictionaries (but not technical dictionaries); Translation dictionary. With the Examiner's approval, candidates may, take an appropriate non- electronic translation dictionary into the examination. This will be subject to perusal and, if it is found to contain annotations or markings that could give the candidate an unfair advantage, it may be removed from the candidate's possession until the appropriate disciplinary action is completed.
- 7 Examination period when Deferred/Supplementary examinations will be held:
Any Deferred or Supplementary examinations for this course will be held in Semester 1 examination period of the following academic year.
- 8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

ASSESSMENT NOTES

- 9 Students who obtain an overall passing mark, but who do not perform satisfactorily in the examination, may, at the discretion of the examiner, be granted a supplementary examination. Students will be granted a deferred examination only if they perform satisfactorily in all other assessments items.
- 10 The due date for assessments is the date by which a student must despatch an assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner. Students must retain a copy of any assignments submitted. This must be produced within 48 hours if required by the Examiner.
- 11 A 4 hour non-compulsory field night at Mt. Kent Observatory is included in this course.