



The University of Southern Queensland

Course Specification

Description: Introductory Astronomy

| Subject | Cat-Nbr | Class | Term | Mode | Units | Campus |
|---------|---------|-------|---------|------|-------|--------|
| PHY | 1101 | 24405 | 2, 2003 | EXT | 1.00 | TWMBBA |

| | |
|------------------------|--------|
| Academic Group: | FOSCI |
| Academic Org: | FOS002 |
| HECS Band: | 2 |
| ASCED Code: | 010303 |

STAFFING

Examiner: Brad Carter

Moderator: Alfio Parisi

RATIONALE

The course provides a general introduction for students with an interest in the science of astronomy. A broad range of topics is treated briefly in a mostly qualitative manner, so that the diverse nature of the subject can be appreciated. The course also offers students an opportunity to learn the basics of astronomical observation.

SYNOPSIS

This course provides an introduction to a broad range of topics in astronomy, and an opportunity to learn the basics of astronomical observation. The course content includes the following: The scale of the cosmos; The sky; Cycles of the sky; The origin of modern astronomy; Astronomical tools; Atoms and starlight; The sun-our star; The properties of stars; The formation and structure of stars; The deaths of stars; Neutron stars and black holes; The milky way galaxy; Galaxies; Galaxies with active nuclei; Cosmology; The origin of the solar system; The earth like planets; Worlds of the outer solar system; Meteorites, Asteroids and comets; Life on other worlds.

OBJECTIVES

On completion of this course students will be able to:

- demonstrate an understanding of distances in astronomy, the night sky, regularities in the sky, the history of astronomy, and telescopes;
- demonstrate an understanding of laws of nature, the Sun, the stars and black holes;
- demonstrate an understanding of our galaxy, other galaxies and cosmology;
- demonstrate an understanding of the solar system, and the search for life on other worlds.

TOPICS

| Description | Weighting (%) |
|------------------------------|---------------|
| 1. The Sky | 25.00 |
| 2. The Stars | 25.00 |
| 3. The Universe of Galaxies | 25.00 |
| 4. The Solar System and Life | 25.00 |

TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at <http://bookshop.usq.edu.au> by entering the author or title of the text.

Lattanzio, Stephen P., Levine, Joel M. & Lee, Valerie Lynch 2002, *Telecourse Student Guide for Universe: The Infinite Frontier*, 4th edition, Brooks/Cole, a Division of Thomson Learning, Pacific Grove, California, ISBN 0-534-37296-1.

Seeds, Michael A. 2002, *Horizons: Exploring the Universe*, 7th edition, Brooks/Cole, a Division of Thomson Learning, Pacific Grove, California, ISBN 0-534-57258-8.

(The above items are packaged together for sale through the USQ Bookshop)

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 and Telescope (Periodical), Sky Publishing, Belmont, MA, USA.
<http://www.skyandtelescope.com>.

Sky & Space (periodical), Sky & Space magazine, 80 Ebley Street, Bondi Junction, NSW 2022. (Available from Newsagents)

Please Note: The textbook and study material are complemented by a 26-tape video series entitled Universe. These videos are used in the workshops. They are not required for students in this textbook-based course, however they may be of interest to students. The complete Universe series is housed as reference material at the USQ Toowoomba campus library. As an alternative, the USQ bookshop sells a package that includes the Horizons textbook, the Telecourse Student Guide, plus an NTSC format videotape of four 28-minute episodes of the Universe astronomy video series.

Ellyard, David & Tirion, Will 2001, *The Southern Sky Guide*, 2nd edition, Cambridge University Press, New York.

Fraknoi, Andrew, Morrison, David & Wolff, Sidney 2001, *Voyages Through the Universe*, 2nd edition, Saunders College Publishing, Fort Worth ISBN 0030328667.

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

Hartmann, William K. & Impey, C. 2002, *Astronomy: The Cosmic Journey*, 6th edition, Thomson Learning, Brooks/Cole, USA, ISBN 0-564-38249-5.

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

Lang, Kenneth R. 1995, *Sun, Earth and Sky (corrected printing) (softcover)*, Springer-Verlag, Berlin, ISBN 3-540-62808-8.

Malin, David 1993, *A View of the Universe*, Cambridge University Press, Cambridge, Mass.

Ridpath, Ian 1998, *Stars and Planets: The visual guide the night sky viewed from around the world (Eyewitness handbooks) First American Edition*, Dorling Kindersley Limited, New York, ISBN 0-7894-3560-8.

Ridpath, Ian 1998, *'Norton's 2000.0' Star atlas*, Longman Scientific & Technical, Harlow. (available from Sky Publishing, PO Box 9111, Blemont, MA 02178 USA. <http://www.skyandtelescope.com>)

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

STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY | HOURS |
|---------------|-------|
| Assignments | 40 |
| Examinations | 2 |
| Private Study | 128 |

ASSESSMENT DETAILS

| Description | Marks Out of | Wtg(%) | Required | Due Date |
|----------------------|--------------|--------|----------|-----------------------|
| CMA 1 | 33.00 | 20.00 | Y | 01 Sep 2003 |
| CMA 2 | 27.00 | 20.00 | Y | 27 Oct 2003 |
| 2 HR RESTRICTED EXAM | 60.00 | 60.00 | Y | END S2 (see note) |

NOTES:

- . 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 available 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 attempt all of the summative assessment items, achieve at least 50% in the examination, achieve an aggregated mark of at least 50% in the total marks allocated for the assignments, and at least 50% of the available weighted marks for the summative assessment 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 weighted aggregate of the 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. With the Examiner's approval, candidates may, take an appropriate non- electronic translation dictionary (but not technical dictionaries) 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 the semester of the next offering of the course.
- 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/SECARIAT/calendar/Part5/> or in the printed version of 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 supplementary examination only if they perform satisfactorily in all other assessment items.
- 10 The due date for assignments 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.