

PHYS 7001 A COSMIC PERSPECTIVE

Credit Points 10

Legacy Code 301247

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Description The unit explores and challenges scientific as well as cultural perspectives on the cosmos, from its composition, expansion and the development and endings of the stars and planets, to life, its limits, evolution and mass extinctions on Earth. The unit also considers the development of consciousness, astrology vs astronomy, expanding horizons, space travel and space exploration.

School Science

Discipline Astronomy

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program.

Assumed Knowledge

Knowledge of Mathematics equivalent to 2-unit HSC, and experience with the use of computer software such as Excel or Word would be beneficial. Previous experience of statistics or computer programming will be an advantage but is not essential.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Critically analyse scientific, historical and cultural views of the sky and the Universe, including those of Aboriginal and Torres Strait Islander peoples.
2. Evaluate the previous generations of life (and species) evolution in relation to Solar system and Galaxy dynamics.
3. Critique modern theories of galaxy, star and planet formation & evolution.
4. Construct and evaluate present hypothesis on the evolution of the Universe and its implications for the future of life and consciousness.

Subject Content

1. How did it all start - scientific and cultural perspectives, including indigenous Australian perspectives;
2. The characteristics of life, how life first appeared on the earth and whether these conditions can be expected to occur on other planets;
3. Biological evolution, mass extinctions and the limits of life (extremophiles);
4. The formation of stars and planets and the habitable zones around stars;
5. Different kinds of stars and the light they emit;
6. The rise of consciousness;
7. How will it all end? - The final state of the Universe and the implications for any life;
8. Astrology vs astronomy;

9. Life in space - space travel and searching for life elsewhere in the universe.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/Group Task
Quiz	1 hour	20	N	Individual
Written report	1,300 to 1,500 words	50	N	Individual
Quiz	1 hour	30	N	Individual

Prescribed Texts

- Bennett, J. O., Donahue, M., Schneider, N., & Voit, M. (2014). *The cosmic perspective* (7th International ed.). Harlow, Essex: Pearson Education Limited.

Teaching Periods