2401BPS – Skepticism, Science and the Paranormal.

1. General Course Information

1.1 Course Details

Course code	2401BPS
Course Title	Skepticism, Science and the Paranormal
Academic Organisation	BPS School of Biomolecular and Physical Sciences
Semester	Semester 1 - 2011
Mode	In Person
Level	Undergraduate

Course Description:

Course overview; definition of terms. Approaches to the paranormal and other belief systems. The nature and position of science: intellectual and social aspects. The nature and position of the paranormal: different types of paranormal claims. Skepticism and ways of investigating the paranormal. Paranormalism, skepticism and the media. This course is offered on campus in Semester 1, and off-campus during the summer semester. Incompatible: 2413SCE Skepticism, Science & the Paranormal

1.2 Course Introduction

Paranormal beliefs are important, widespread and yet rarely studied. The analysis of those beliefs is both valuable in itself and useful in developing critical and analytical skills. Since both skepticism and the paranormal are defined in relation to science, and are often strongly influenced by science, some elucidation of the nature of science and of its position in society is required. Modern skepticism the science-inspired study of paranormal claims relates both to science and to the paranormal, and seeks to influence media coverage of these issues. The course aims to elucidate the nature of the three terms in the title and, through the lectures and the seminars, to enable the students to evaluate paranormal claims in skeptical terms. Both the seminars and the take-home exam encourage students to apply skeptical concepts to the paranormal, and to arrive at their own conclusions. The multiple choice examination encourages broad comprehension of key concepts.

Previous Student Feedback

Student response was positive and enthusiastic.

1.3 Course Staff

Convenor: Dr Martin Bridgstock

1.4 Course Timetable

Timetables are available on the Griffith Timetable site.

NB: Details contained in this section of the course profile and section 4.1 Learning Activities are to be read in conjunction with the official class timetable. The published class timetable located at https://intranet.secure.griffith.edu.au/student/timetable-support is the authoritative source for timetabling information for all campuses.

2. Aims, Objectives & Graduate Attributes

2.1 Course Aims

Paranormal beliefs are important, widespread and yet rarely studied. The analysis of those beliefs is both valuable in itself and useful in developing critical and analytical skills. Since both skepticism and the paranormal are defined in relation to science, and are often strongly influenced by science, some elucidation of the nature of science and of its position in society is required. Modern skepticism the science-inspired study of paranormal claims relates both to science and to the paranormal, and seeks to influence media coverage of these issues.

The course aims to elucidate the nature of the three terms in the title and, through the lectures and the seminars, to enable the students to evaluate paranormal claims in skeptical terms. Both the seminars and the take-home exam encourage students to apply skeptical concepts to the paranormal, and to arrive at their own conclusions. The multiple choice examination encourages broad comprehension of key concepts.

2.2 Learning Objectives

After successfully completing this course you should be able to:

1 Understand the nature of skepticism, science and the paranormal and their places in western societies, as shown in an ability to outline their key attributes.

2 Understand the intellectual tools of modern skepticism, their ethical dimensions and their applicability to paranormal claims, as shown by an ability to outline these and instance their application to specific cases.

3 Have the ability to apply skeptical criteria to selected paranormal and related claims.

4 Have the capacity to present the results of analysis in well-structured and logical form.

2.3 Graduate Attributes

Griffith University aims to prepare its graduates to be leaders in their fields by being:

- Knowledgeable and Skilled in their Disciplines
- Effective Communicators and Team Members
- Innovative and Creative with Critical Judgement
- Socially Responsible and Engaged in their Communities
- Competent in Culturally Diverse and International Environments

University wide attributes	
GRADUATE ATTRIBUTE	LEARNING OBJECTIVES
A. Knowledgeable and Skilled in their Disciplines	
A1. Comprehensive knowledge and skills relating to their disciplines	1, 2
A2. An interdisciplinary perspective	1, 2, 3
A3. Capacity to find, evaluate and use information	2, 3, 4
A4. Ability to apply discipline/professional skills and knowledge in the workplace	2
B. Effective Communicators and Team Members	
B1. Capacity to communicate effectively with others orally	2, 3, 4
B2. Capacity to communicate effectively with others in writing	2, 3, 4
B3. Capacity to communicate effectively with others using ICTs, multimedia, visual, musical and other forms appropriate to their disciplines	3, 4
B4. Capacity to interact and collaborate with others effectively, including in teams, in the workplace, and in culturally or linguistically diverse contexts	4
C. Innovative and Creative with Critical Judgement	
C1. Ability to use knowledge and skills to devise solutions to unfamiliar problems	1, 2, 3, 4
C2. Ability to analyse and critically evaluate arguments and evidence appropriate to their disciplines (eg collect, analyse and interpret data and information, generate and test hypotheses, synthesise and organise information)	1, 2, 3, 4
C3. Knowledge of research methodologies in their disciplines and capacity to interpret findings	1, 2, 3, 4
C4. Ability to generate ideas/products/art works/methods/approaches/perspectives as appropriate to the discipline	
D. Socially Responsible and Engaged in their Communities	
D1. Ethical awareness (professional and personal) and academic integrity	1, 2, 3, 4
D2. Capacity to apply disciplinary knowledge to solving real life problems in relevant communities	1, 2, 3, 4
D3. Understanding of social and civic responsibilities, human rights	1, 2, 3, 4

and sustainability	
D4. Understanding the value of further learning and professional development	1, 3, 4
E. Competent in Culturally Diverse and International Environments	
E1. Awareness of and respect for the values and knowledges of Australian Aboriginal and Torres Strait Islander First Peoples	
E2. Respect, awareness, knowledge and skills to interact effectively in culturally or linguistically diverse contexts	
E3. A global and international perspective on their disciplines	

3. Learning Resources

3.1 Required Learning Resources

Resource

Martin Bridgstock*: Beyond Belief: Skepticism, Science and the Paranormal.* Melbourne: Cambridge University Press. 2009

3.2 Recommended Learning Resources

Resource

Kelly,Lynne*:The Skeptic's Guide to the Paranormal*.Crows Nest,NSW.Allen & Unwin.2004

Schick,Theodore and Vaughn,Lewis*: How to Think about Weird Things*.Mountain View,California,1995.

Shermer,Michael:*Why People Believe Weird Things*.New York.W.H.Freeman and Company 1997.

4. Teaching & Learning Activities

4.1 Learning Activities

Week Commencing	Activity	Learning Objectives
28 Feb 11	Introduction (Lecture): Course overview and administrivia. Basic nature of skepticism. Learning contract.	1, 2
28 Feb 11	Seminar on giving seminars. (Seminar)	3, 4
7 Mar 11	The nature and structure of science (Lecture) Readings/Ref: Martin Bridgsto (Chapter One);	1
7 Mar 11	Modern science: critics and problems (Lecture) Readings/Ref: Martin Bridgsto (Chapter one);	1
14 Mar 11	The nature and structure of the paranormal (Lecture)	1

	Readings/Ref: Martin Bridgsto (Chapter 2);	
14 Mar 11	Other aspects of the paranormal; superstitions (Lecture) Readings/Ref: Martin Bridgsto (Chapter Two);	1
21 Mar 11	Nature and origins of skepticism (Lecture) Readings/Ref: Martin Bridgsto (Chapter 3); Schick et al	1, 2, 3
21 Mar 11	Modern skepticism (Lecture): Martin Gardner, Paul Kurtz and the modern movement. Readings/Ref: Martin Bridgsto (Chapter 4); Kelly ; Shermer ; Schick et al	1, 2, 3
28 Mar 11	Items in the skeptical armoury (Lecture) Readings/Ref: Martin Bridgsto (Chapter 4); Kelly ; Shermer ; Schick et al	1, 2, 3
28 Mar 11	Skepticism in action (Lecture): The Amityville Horror Readings/Ref: Martin Bridgsto (chapter 5); Kelly ; Shermer ; Schick et al	1, 2, 3, 4
11 Apr 11	The ethics of belief (Lecture): Skeptical ethics Readings/Ref: Martin Bridgsto (Chapter 6); Shermer	1, 2, 3
11 Apr 11	The basis of belief in the paranormal (Lecture) Readings/Ref: Martin Bridgsto (Chapter 5); Shermer	1
18 Apr 11	Controversies in science and the paranormal (Lecture): dowsing video. Readings/Ref: Martin Bridgsto ;	1, 2, 3, 4
18 Apr 11	The case of astrology (Lecture): An ancient system. Readings/Ref: Martin Bridgsto (Chapter 5); Kelly ; Schick et al	1, 2, 3
3 May 11	The Case of Parapsychology (Lecture): Part one: a candidate science. Readings/Ref: Martin Bridgsto (Chapter 5); Kelly ; Shermer ; Schick et al	1, 2, 3, 4
3 May 11	The case of parapsychology (Lecture): Part Two. Readings/Ref: Martin Bridgsto (Chapter 5); Kelly ; Shermer ; Schick et al	1, 2, 3, 4
9 May 11	The case of creation science (Lecture) Readings/Ref: Martin Bridgsto (Chapters 1,5); Kelly ; Shermer ; Schick et al	1, 2, 3, 4
9 May 11	Intelligent design (Lecture) Readings/Ref: Martin Bridgsto (Chapter 1,5); Kelly ; Shermer ; Schick et al	1, 2, 3
16 May 11	Chariots of the Gods? (Lecture): Erich von Daniken's theories Readings/Ref: Martin Bridgsto (Chapter 7); Kelly ; Shermer	1, 2, 3, 4
16 May 11	Skepticism and the non-paranormal (Lecture): Holocaust denial and the Apollo 'hoax' Readings/Ref: Martin Bridgsto (Chapter 7); Shermer	1, 2, 3, 4
23 May 11	Final session (Quiz): Summary and conclusion; Multiple choice quiz; Distribution of exam papers and evaluation forms. Student seminars, help with take home exam	1, 2, 3, 4

	Readings/Ref: Martin Bridgsto ; Kelly ; Shermer ; Schick et al	
23 May 11	Evidence based medicine (Lecture) Readings/Ref: Martin Bridgsto (Chapter 7);	1, 2, 3, 4
30 May 11	Student seminars (Seminar) Readings/Ref: Martin Bridgsto ; Kelly ; Shermer ; Schick et al	1, 2, 3, 4
30 May 11	Student seminars (if needed) (Seminar)	
6 Jun 11	Student seminars (if needed) (Seminar)	

4.2 Other Teaching and Learning Activities Information

The course is presented through 22 one-hour lectures and ten one-hour student seminars. A substantial website with appropriate materials and links, supplements and extends and to some degree substitutes for the lectures. In addition, printed materials are circulated to supplement the former and to assist with assessment.
Strictly, no activities are compulsory. However, attendance at lectures and seminars is strongly advised, as loss of marks may result otherwise. There is a 10% mark for attendance and participation at seminars. To some degree, website materials can substitute for missed lectures, though questions and interaction in the latter are an important feature which cannot be replicated on the website

5. Assessment

5.1 Assessment Summary

Assessment Task	Due Date	Weighting	Learning Objectives	
Seminar Seminar	As scheduled on website (by week 4)	20%	1, 2, 3, 4	• 🕮
Short Paper Write-up of seminar	The week after the presentation.	20%	1, 2, 3, 4	• 🕮
Participation Seminar Attendance and Participation	Throughout the semester	10%	1, 2, 3, 4	• 🕮
Take Home Exam Take-home exam	Date will be found on website by end of Week One.	42%	1, 2, 3, 4	• 🕮
Exam outside Exam Period (School) Multiple choice exam	Date will be found on website by end of Week One.	8%	1, 2, 3	• 🕮

5.3 Late Submission

An assessment item submitted after the due date, without an approved extension from the Course Convenor, will be penalised. The standard penalty is the reduction of the mark allocated to the assessment item by 10% of the maximum mark applicable for the assessment item, for each day or part day that the item is late. Weekends count as one day in determining

the penalty. Assessment items submitted more than five days after the due date are awarded zero marks.

5.4 Other Assessment Information

Return of Assessment Items
Information on assessment of seminars is provided during and at the end of the seminar. Written-up seminar papers are returned two weeks after they have been submitted. Return of take-home exam papers will be facilitated via a notice on the website.

Learning Summary

Below is a table showing the relationship between the learning objectives for this course and the broader graduate attributes developed, the learning activities used to develop each objective and the assessment task used to assess each objective.

The relationships shown here can be edited in sections 2 (Learning Objectives), 4 (Learning Activities) and 5 (Assessment Tasks).

Learning objectives

After successfully completing this course you should be able to:

1 Understand the nature of skepticism, science and the paranormal and their places in western societies, as shown in an ability to outline their key attributes.
2 Understand the intellectual tools of modern skepticism, their ethical dimensions and their applicability to paranormal claims, as shown by an ability to outline these and instance their application to specific cases.
3 Have the ability to apply skeptical criteria to selected paranormal and related claims.
4 Have the capacity to present the results of analysis in well-structured and logical form.

Assessment and learning activities

	Learning Objectives			
	1	2	3	4
Learning Activities				
Introduction (Lecture)	●	●		
Seminar on giving seminars. (Seminar)			●	●
The nature and structure of science (Lecture)	●			
Modern science: critics and problems (Lecture)	●			
The nature and structure of the paranormal (Lecture)	●			
Other aspects of the paranormal; superstitions (Lecture)	●			
Nature and origins of skepticism (Lecture)	●	●	●	
Modern skepticism (Lecture)	●	●	●	
Items in the skeptical armoury (Lecture)	●	●	●	
Skepticism in action (Lecture)	●	●	●	●
The ethics of belief (Lecture)	●	●	●	
The basis of belief in the paranormal (Lecture)	●			

Controversies in science and the paranormal (Lecture)	●	●	●	●
The case of astrology (Lecture)	●	●	●	
The Case of Parapsychology (Lecture)	●	●	●	●
The case of parapsychology (Lecture)	●	●	●	●
The case of creation science (Lecture)	●	●	●	●
Intelligent design (Lecture)	●	●	●	
Chariots of the Gods? (Lecture)	●	●	●	●
Skepticism and the non-paranormal (Lecture)	●	●	●	●
Final session (Quiz)	●	●	●	●
Evidence based medicine (Lecture)	●	●	●	●
Student seminars (Seminar)	●	●	●	●
Student seminars (if needed) (Seminar)				
Student seminars (if needed) (Seminar)				
Assessment Tasks				
Seminar	●	●	●	●
Write-up of seminar	●	●	●	●
Seminar Attendance and Participation	●	●	●	●
Take-home exam	●	●	●	●
Multiple choice exam	●	●	●	

Graduate Attributes

Griffith University aims to prepare its graduates to be leaders in their fields by being:

- Knowledgeable and Skilled in their Disciplines
- Effective Communicators and Team Members
- Innovative and Creative with Critical Judgement
- Socially Responsible and Engaged in their Communities
- Competent in Culturally Diverse and International Environments

GRIFF (University wide attributes)

	Learning Objectives			
	1	2	3	4
A Knowledgeable and Skilled in their Disciplines				
A1. Comprehensive knowledge and skills relating to their disciplines	●	●		
A2. An interdisciplinary perspective	●	●	●	
A3. Capacity to find, evaluate and use information		●	●	●
A4. Ability to apply discipline/professional skills and knowledge in the workplace		●		
B Effective Communicators and Team Members				
B1. Capacity to communicate effectively with others orally		●	●	●
B2. Capacity to communicate effectively with others in writing		●	●	●
B3. Capacity to communicate effectively with others using ICTs, multimedia, visual, musical and other forms appropriate to their			●	●

disciplines				
B4. Capacity to interact and collaborate with others effectively, including in teams, in the workplace, and in culturally or linguistically diverse contexts				•
C Innovative and Creative with Critical Judgement				
C1. Ability to use knowledge and skills to devise solutions to unfamiliar problems	•	•	•	•
C2. Ability to analyse and critically evaluate arguments and evidence appropriate to their disciplines (eg collect, analyse and interpret data and information, generate and test hypotheses, synthesise and organise information)	•	•	•	•
C3. Knowledge of research methodologies in their disciplines and capacity to interpret findings	•	•	•	•
C4. Ability to generate ideas/products/art works/methods/approaches/perspectives as appropriate to the discipline				
D Socially Responsible and Engaged in their Communities				
D1. Ethical awareness (professional and personal) and academic integrity	•	•	•	•
D2. Capacity to apply disciplinary knowledge to solving real life problems in relevant communities	•	•	•	•
D3. Understanding of social and civic responsibilities, human rights and sustainability	•	•	•	•
D4. Understanding the value of further learning and professional development	•		•	•
E Competent in Culturally Diverse and International Environments				
E1. Awareness of and respect for the values and knowledges of Australian Aboriginal and Torres Strait Islander First Peoples				
E2. Respect, awareness, knowledge and skills to interact effectively in culturally or linguistically diverse contexts				
E3. A global and international perspective on their disciplines				