

PHIL2620 Probability and Decision Theory Semester 2, 2007

Unit of Study Outline

1. Teaching Staff

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Don't hesitate to email either Katie or Adam with any general queries regarding the course. A consultation time will be confirmed in the first week of the course.

2. Unit Description

Throughout our lives, in making decisions large and small, we act in the face of uncertainty. Because we are unsure what the future holds, we base our choices on estimates of probability. But what is probability, how do we know about it, and how should we use that knowledge in making rational choices? This course provides an introduction to the foundations and philosophical puzzles of probability, decision theory and game theory

3. Unit Goals

The course aims to introduce students to the wealth of fascinating conceptual problems surrounding the issues of decision making in the face of uncertainty. In order to grasp these conceptual problems properly, and be able to make some progress on them, it is essential that we understand the basics of the formal foundations of probability and decision theory, and the course also aims to provide a gentle, self-contained introduction to these foundations. More generally, the course aims to develop the student's capacity to understand and critically assess arguments, and to grasp the interplay between formal and conceptual issues.

4. Student Learning Outcomes

Students will learn about specific theories and views in the areas of probability, decision theory and game theory. Students will develop their general abilities to understand and critically evaluate new views and arguments, and to think independently, analytically and creatively; they will also increase their repertoire of useful concepts.

The lectures and tutorials will develop skills in research, inquiry and information literacy. The assessment component of this unit of study will test these skills. Skills in communication will be developed through tutorial participation and the writing of a philosophical essay. Participation in tutorials and completion of the essay and exam will improve and demonstrate the student's ability to work and think independently. The concepts discussed in the course, in addition to the skills acquired, form the basis of a high level of ethical, social and professional understanding.

5. Classes

Lecture: Wednesday 1–3pm in Pharmacy Lecture Theatre

Tutorials: Group 1: Thursday 3-4pm in Quad History, S223
Group 2: Thursday 4-5pm in Quad Latin 1, S224

You should be aware of Faculty policy on attendance at classes: see attached “SOPHI Policy on Assessment of Coursework”.

6. WebCT Site

Lecture notes will be posted on the WebCT site. To log on, go to:
<http://learn-on-line.usyd.edu.au> and enter your UniKey/Extro login name and password.

The WebCT site is very important, as no paper copies of lecture notes will be handed out. Lecture notes for each class should be available on WebCT by the end of the day before class, so that you can print out and read the notes in advance.

For an introduction to WebCT and a guide to sources of further help, see
<http://www.usyd.edu.au/webct/student>.

7. Learner Preparation

You will need to keep up with your reading of the textbook (see schedule below).

You must prepare for tutorials. Each tutorial will be based around a set of problems/discussion questions that will be provided at the previous lecture. You must work on and think about these prior to the tutorial.

To access WebCT you will need a computer with an internet connection. A list of on-campus computer access labs is available at <http://itassist.usyd.edu.au/student/services/labs/>

8. Readings

The following textbook is essential reading:

Michael D. Resnik, Choices: An Introduction to Decision Theory, University of Minnesota Press, 1987.
229 pages. Paperback ISBN0-8166-1440_7

Copies have been ordered at the Co-op Bookshop on campus. The book is also available from Amazon and other booksellers.

9. Unit Outline and Reading Schedule

We will work through the textbook, supplemented by lecture notes which will be made available on WebCT, roughly according to the following schedule:

Week 1	Introduction	Chapter 1
Weeks 2–3	Decisions Under Ignorance	Chapter 2
Weeks 4–6	Decisions Under Risk: Probability	Chapter 3
Weeks 7–9	Decisions Under Risk: Utility	Chapter 4
Weeks 10–11	Game Theory	Chapter 5
Weeks 12–13	Social Choices	Chapter 6

NB This is a tentative schedule. We will adjust the pace of the material as we go along to suit the class. It is possible that we will not cover the final topic (Social Choices), instead spending more time on earlier topics.

10. Assessment

Assessment for the unit is made up of 3 components:

(1) An in-class test, worth 20%, to be held in the first hour of the lecture time in week 8 (September 12).

Test questions will not be given out in advance. The test will test whether you have kept up with and understood the material covered in class and readings to date.

(2) A 2500-word essay, worth 30%, due by 5pm, Wednesday October 3 (week 10).

Essay topics, and the official cover sheet (which must be attached to your essay), will be handed out in class, and posted on the WebCT site, at least 3 weeks before the due date. The essay tests your ability to engage with a particular issue in depth. It tests your ability to express, analyse and organise key ideas clearly and systematically, and to develop an argument in a sustained way.

(3) A 2-hour final exam, worth 50%, to be held in the final examination period.

Your overall grade for the unit will be worked out by adding up your marks—weighted as shown above—for the essay, test and exam, scaling according to the University guidelines for grading, and translating the scaled mark into a grade.

See attached “SOPHI Policy on Assessment of Coursework” for details about grades.

SCHOOL OF PHILOSOPHICAL AND HISTORICAL INQUIRY POLICY ON ASSESSMENT OF COURSEWORK

Assessment

Students are required to:

- attend lectures and tutorials (or seminars);
- participate in class discussion;
- complete satisfactorily such written work, presentations and examinations as may be prescribed; and
- meet the standards required by the University for academic honesty

Attendance requirements

The School of Philosophical and Historical Inquiry requires satisfactory class attendance as part of participation in a unit of study. Attendance below 80% of tutorials/seminars without written evidence of illness or misadventure will be penalised with loss of marks; attendance at less than 50% of tutorials/seminars, regardless of the reasons for the absences, will result in the student being deemed not to have fulfilled requirements for the unit of study. The University does not recognise employment as excusing unsatisfactory performance, nor are timetable clashes a valid excuse. Students should not take a unit of study unless they can meet the above attendance requirement.

Grade distribution

Departments within the School of Philosophical and Historical Inquiry follow Academic Board and Faculty of Arts guidelines in awarding a determined percentage of each grade. Departments may scale marks in order to fit these grade guidelines.

A. General philosophies of assessment practice

1. The School favours 'deep learning' over 'shallow learning'. In other words, we are more interested in evidence that students have made conceptual developments in their ways of understanding and interpreting the world than in their familiarity with 'facts', figures and dates.
2. Original and thoughtful argument is valued more highly than polished regurgitations of lectures or set reading.
3. Evidence of a thoughtful response to the conceptual framework of any individual unit is valued more highly than pre-existing skills of, for example, debate and expression.
4. Students are encouraged to explore areas of particular interest to themselves, and will be rewarded for initiative and ingenuity in discovering relevant material.
5. An idea that cannot be expressed clearly probably has not been understood clearly. We therefore value evidence of logical, coherent thought, argument and expression in essays.
6. While recognising that the political and ethical values of students vary widely, the School does not reward or condone unreasoned polemic or racism or sexism.

B. Marking criteria

In assessing written work, academic staff within the School look for demonstrated effort, abilities and skills in the following areas. Note that individual units are likely to have additional and more specific requirements and criteria. These should be made clear to students by the coordinator in each unit.

1. Content
 - extent of reading
 - accuracy of knowledge
 - breadth and depth of knowledge
 - relevance of information
 - sufficiency of evidence and documentation

2. Understanding
 - understanding of problem or project
 - judgement of significance of material
 - awareness/understanding of different arguments in reading
 - recognition of implications of evidence
 - ability to think critically
 - grasp of relevant theory
 - understanding of ethics and values relevant to reading and subject matter

3. Independence
 - judgement and initiative in reading and research
 - originality in use and interpretation of evidence
 - development of argument
 - independence in use of concepts and language

4. Style
 - correctness of grammar and scholarly documentation
 - organisation and presentation of material
 - clarity of writing style
 - originality and creativity of writing style

C. Guide to interpretation of grades

This guide indicates broadly the qualitative judgements implied by the various grades which may be awarded. A more precise evaluation of the strengths and weaknesses of individual essays will be provided in examiners' comments. Evaluation is made with due consideration of the different standards likely to be achieved by students in junior and senior units.

Below 50% (Fail)

Work not of an acceptable standard. Work may fail for any or all of the following reasons: unacceptable levels of paraphrasing; irrelevance of content; presentation, grammar or structure so sloppy it cannot be understood; submitted very late without extension.

50-54% (Low Pass)

Work of an acceptable standard. Written work contains evidence of minimal reading and some understanding of subject matter, offers descriptive summary of material relevant to the question, but may have a tendency to paraphrase; makes a reasonable attempt to organise material logically and comprehensibly and to provide scholarly documentation. There may be gaps in any or all of these areas.

55-59% (Medium Pass)

Work of a satisfactory standard. Written work meets basic requirements in terms of reading and research, and demonstrates a reasonable understanding of subject matter. Offers a synthesis of relevant material and shows a genuine effort to avoid paraphrasing, has a logical and comprehensible structure and acceptable documentation, and attempts to mount an argument, though there may be weaknesses in particular areas.

60-64% (High Pass)

Work has considerable merit, though Honours is not automatically recommended. Written work contains evidence of a broad and reasonably accurate command of the subject matter and some sense of its broader significance, offers synthesis and some evaluation of material, demonstrates an effort to go beyond the essential reading, contains clear focus on the principal issues, understanding of relevant arguments and diverse interpretations, and a coherent argument grounded in relevant evidence, though there may be some weaknesses of clarity or structure. Articulate, properly documented.

Note that roughly 45-50% of students in junior levels of study and 25-50% of students in senior level units of study will receive marks within the Pass range each semester.

65-69% (Low Credit)

Competent work, demonstrating potential to complete Honours work, though further development needed to do so successfully. Written work contains evidence of comprehensive reading, offers synthesis and critical evaluation of material on its own terms, takes a position in relation to various interpretations. In addition, it shows some extra spark of insight or analysis. Demonstrates understanding of broad historical significance, good selection of evidence, coherent and sustainable argument, some evidence of independent thought.

70-74% (High Credit)

Highly competent work, demonstrating clear capacity to complete Honours successfully. Evidence of extensive reading and initiative in research, sound grasp of subject matter and appreciation of key issues and context. Engages critically and creatively with the question, and attempts an analytical evaluation of material. Makes a good attempt to critique various interpretations, and offers a pointed and thoughtful contribution to an existing debate. Some evidence of ability to think theoretically as well as empirically, and to conceptualise and problematise issues. Well written and documented.

75-84% (Distinction)

Work of a superior standard. Written work demonstrates initiative in research and reading, complex understanding and original analysis of subject matter and its context, both empirical and theoretical; makes good attempt to ‘get behind’ the evidence and engage with its underlying assumptions, takes a critical, interrogative stance in relation to argument and interpretation, shows critical understanding of the principles and values underlying the unit. Properly documented; writing characterised by style, clarity, and some creativity.

85%+ (High Distinction)

Work of exceptional standard. Written work demonstrates initiative and ingenuity in research and reading, pointed and critical analysis of material, innovative interpretation of evidence, makes an insightful contribution to debate, engages with values, assumptions and contested meanings contained within original evidence, develops abstract or theoretical arguments on the strength of detailed research and interpretation. Properly documented; writing characterised by creativity, style, and precision.

Academic dishonesty

The School of Philosophical and Historical Inquiry is committed to the principles of academic honesty as set out in the Academic Board policy on *Academic Honesty in Coursework*. Students have a responsibility to familiarise themselves with these principles.

In accordance with Academic Board policy, the School’s definition of academic dishonesty includes but is not limited to:

- plagiarism: for full details see below;
- recycling: the submission for assessment of one’s own work, or of work which is substantially the same, which has previously been counted towards the satisfactory completion of another unit of study, and credited towards the satisfactory completion of another unit of study, and credited towards a university degree, and where the examiner has not been informed that the student has already received credit for that work;
- fabrication of data;
- the engagement of another person to complete an assessment or examination in place of the student, whether for payment or otherwise;

- communication, whether by speaking or some other means, to other candidates during an examination;
- bringing into an examination and concealing forbidden material such as textbooks, notes, calculators or computers;
- attempts to read other student's work during an examination; and/or
- writing an examination or test paper, or consulting with another person about the examination or test, outside the confines of the examination room without permission.

In suspected cases of academic dishonesty, students may be counselled or the matter may be referred to the Head of School.

Plagiarism

Plagiarism is the theft of intellectual property. The School of Philosophical and Historical Inquiry is opposed to and will not tolerate plagiarism. Students have a responsibility to understand the full details of the Academic Board policies on *Academic Honesty in Coursework* and *Student Plagiarism: Coursework Policy and Procedure* (<http://www.usyd.edu.au/senate/policies/Plagiarism.pdf>).

All students are required to include a signed statement of compliance with work submitted for assessment, presentation or publication certifying that no part of the work constitutes a breach of the University's policy on plagiarism. This statement of compliance is printed on all assignment/essay cover sheets and written work will not be marked if the compliance statement is unsigned.

In accordance with Academic Board policy, the School defines plagiarism as presenting another person's work (ideas, findings or written and/or published material) as one's own by presenting, copying or reproducing the work without acknowledgment of the source. Common forms of plagiarism include but are not limited to:

- presenting written work that contains sentences, paragraphs or longer extracts from published work without attribution of the source;
- presenting written work that reproduces significant portions of the work of another student; and/or
- using the structure of another person's argument, even if the wording is changed.

Legitimate cooperation between students is permitted and encouraged but students should be aware of the difference between cooperation and collusion. Discussion of general themes and concepts is allowed but students are not permitted to read each other's work prior to submission or cooperate so closely that they are jointly selecting quotes, planning essay structure or copying each other's ideas.

While plagiarism is never acceptable, there is a distinction between negligent plagiarism and plagiarism that involves dishonest intent.

Negligent plagiarism is defined in Academic Board policy as 'innocently, recklessly or carelessly presenting another person's work as one's own work without acknowledgement of the source'. In the case of negligent plagiarism, the School's first responsibility is educative. Where plagiarism is deemed to arise from poor referencing practices or lack of confidence, students will be counselled, provided with strategies for improvement and referred to appropriate services for assistance. They will also be issued with a written warning explaining the consequences of any subsequent breaches of the University's policy prohibiting plagiarism.

Dishonest plagiarism is defined in Academic Board policy as 'knowingly presenting another person's work as one's own work without acknowledgement of the source'. Where dishonest intent is apparent, the School may proceed to disciplinary measures. In the most serious cases, University procedures relating to student misconduct may be invoked and can lead to expulsion.

The School of Philosophical and Historical Inquiry encourages students to think for themselves. In assessing students' work academic staff look for evidence of understanding and capacity for independent thought; it is always disappointing to discover plagiarism. Written work containing plagiarism will be assessed according to its academic merit, but may fail because it does not meet the minimum standard required.

Submission of written work

Essays and assignments must be submitted through the School office, located on Level 3, Lobby H, in the Main Quadrangle. Students may not hand essays or assignments directly to their lecturer or tutor. Online submission of essays and assignments through WebCT is available in some units of study.

A completed and signed cover sheet must be attached to the front of all written work submitted through the School office. Written work will not be marked if the plagiarism policy compliance statement on the cover sheet is unsigned. All incoming essays and assignments are date stamped. The School office maintains a register of submitted work, including any claims by students that written work submitted to the School office has been lost. Students submitting work through WebCT must read and accept the plagiarism policy compliance statement for their work to be submitted.

Students are advised to retain a copy of all written work submitted.

Late submission and extensions

Essays and assignments not submitted on or before the due date are subject to penalty. Late work is penalised at the rate of 2% of the full marks of the assignment per weekday late and 2% of the full marks of the assignment per weekend late. The maximum penalty for any assessment will be 100%.

Only coordinators, either of individual units or of the junior and/or senior curricula have the authority to grant extensions. Extensions will not be granted for pressures of outside work or competing academic commitments. Requests for extension must normally be submitted in writing to the unit coordinator on or before the due date. Where circumstances of illness or misadventure prevent submission of a request for extension before the due date, students may apply for special consideration through the Faculty of Arts office.

Late essays or assignments will not be accepted (except where applications for special consideration are lodged) beyond the designated return date for the relevant written work. In cases where documented misadventure or serious illness prevents students from submitting work before the designated return date an alternative assessment task may be set.

Special consideration: illness or misadventure

The School of Philosophical and Historical Inquiry assesses student requests for special consideration in accordance with the principles set out in Part 5 of the Academic Board policy on *Assessment and Examination of Coursework*. Students intending to submit an application for special consideration should make themselves familiar with the full details of this policy.

Generally, serious illness or misadventure will be taken into account when considering a student's academic performance in a course or units of study. There is, however, a clear distinction between longstanding illness or difficulties which prevent students from attending classes or completing required work or which seriously interfere with their capacity to study for long periods and short-term illness or misadventure that may prevent an otherwise well-prepared student from sitting for an examination or completing a particular assessment.

Students who, because of serious illness or misadventure, are prevented from attending classes for prolonged periods should seek an interview with the Head of School. Even if they do not exceed the specified permitted period of absence, they may need to consider whether their best academic interests

are served by discontinuing with permission from the course until they are able to resume their studies effectively.

It should be noted that only well-attested serious illness or misadventure during a semester or occurring at the time of an examination will warrant special consideration for academic performance. Occasional brief or trivial illness would not normally be regarded as sufficient to explain an absence or a poor performance and students are discouraged from submitting certificates for absences totalling less than one week, although frequently recurrent short absences would need documentation.

To apply for special consideration students need to:

1. Obtain a special consideration form from the Faculty of Arts office, Faculty of Arts website or the Student Centre.
2. Complete the special consideration form:
 - a. For consideration due to serious illness - have a registered medical practitioner or counsellor complete the Professional Practitioners Certificate.
 - b. For consideration due to misadventure attach appropriate documentation (e.g. police report).
3. Make the appropriate number of copies - one copy per assessment for which special consideration is sought.
4. Lodge the original of this form with the Faculty office.
5. Lodge a stamped copy of the form with each School office.

Applications must be received no less than one week from the end of the period for which consideration is sought (i.e. within one week of the date of the assessment). Students must retain their stamped receipt. Students will be notified of the academic judgement concerning their special consideration application by the relevant unit coordinator.

Special arrangements

Special arrangements may be made available to students unable to meet assessment requirements or attend examinations for the following reasons:

- essential religious commitments or essential beliefs (including cultural and ceremonial commitments);
- compulsory legal absence (e.g. jury duty, court summons etc)
- sporting or cultural commitments, including political/union commitments, where the student is representing the University, state or nation;
- birth or adoption of a child; and
- Australian defence force or emergency service commitments (including Army Reserve)

Special arrangements for assessment or examination may include but are not limited to:

- alternative dates for submission of assessments;
- provision of alternative assessment tasks; and
- alternative examination times/arrangements

Applications for special arrangements should be made in writing to the Head of School. Students seeking special arrangements will need to provide sufficient and relevant supporting documentation in English. Full details are available in the Academic Board policy on *Special Arrangements for Examination and Assessment*.

Appeals

Students dissatisfied with an academic decision may apply to have the decision reconsidered and in appropriate cases reviewed, in accordance with procedures set out in the Academic Board policy on *Student Appeals Against Academic Decisions – Academic Board Resolutions*.

Academic staff within the School of Philosophical and Historical Inquiry will attempt to resolve all students' complaints at a local, informal level wherever possible. It is Academic Board policy that submission of any appeal against an academic decision will not disadvantage a student in any way, and that students will be provided with sufficient information about the final decision for it to be reasonably expected that they will be able to understand it.

Students concerned about any academic decision should first discuss the issue informally with the relevant lecturer/tutor or unit of study coordinator. This should be done within three months of the particular academic decision being made (excepting circumstances of illness or misadventure). Many complaints should be resolved at this stage.

If the matter remains unresolved, students may then approach the relevant chair of department. Appeals may be made informally or in writing. The chair of department will nominate a second examiner who will complete a re-examination within seven days. If the second examiner returns a higher mark than the original, the results will be amended accordingly: if not the original result will stand.

Students have further rights of appeal to the Head of School and the Dean of the Faculty of Arts and may make an ultimate appeal to the Senate.

Learning Assistance

Students experiencing difficulties with their written expression, including essay writing style or structure can seek assistance from the Learning Centre, which runs workshops on a range of subjects including study skills, academic reading and writing, oral communication, and examination skills. The centre offers programs specifically designed for students from a non-English speaking background. The Learning Centre is located on Level 7 of the Education Building A35 (beside Manning House); contact them on 9351 3853 or email lc@stuserv.usyd.edu.au. For further information visit the Learning Centre website at http://www.usyd.edu.au/stuserv/learning_centre.

Online learning assistance is available via the Write Site, which offers modules on grammar, sources and structure to help students develop their academic and professional writing skills. Each module provides descriptions of common problems in academic and professional writing and strategies for addressing them. Students can view samples of good writing and also do some practice activities in error correction. For further information visit the Write Site at <http://writesite.elearn.usyd.edu.au>.

Learning assistance is also available to Indigenous Australian students via the Koori Centre and includes academic skills group workshops covering topics such as concentration strategies, writing for specific disciplines, time management, research and reading strategies, academic writing styles and referencing. The Koori Centre is located on Level 2 of Old Teachers College A22; contact 9351 2046 or 1800 622 742 (toll free) or email koori@koori.usyd.edu.au. For further information visit the Koori Centre website at <http://www.koori.usyd.edu.au>.

Note: All Academic Board policies referred to are available online at <http://www.usyd.edu.au/policy>.