



SACRAMENTO
STATE

Course Change Proposal Form A

APPROVED



Academic Group (College): Arts and Letters	Academic Organization (Department): Philosophy	Date: February 1, 2008
Type of Course Proposal: New <u>X</u> Change ___ Deletion ___	Department Chair: Thomas Pyne	Submitted by: G. Randolph Mayes
Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes ___ No <u>X</u>	For Catalog Copy: Yes <u>X</u> No ___ CCE (Extension): Yes ___ No ___	Semester Effective: Fall ___ Spring <u>X</u> , 2009 ___

This course replaces experimental course Subject Area (prefix) and Catalog Nbr (course number):

Change from:

Subject Area (prefix) & Catalog Nbr (course no.):	Title:	Units:
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Change to:

Subject Area (prefix) & Catalog Nbr (course no.): Philosophy 192U	Title: Uncertainty	Units: 3
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JUSTIFICATION:

Philosophy department offers seminars on important philosophical themes as a way for students to satisfy upper-division course requirements for the major. Uncertainty is a central topic in epistemology and the philosophy of science.

NEW COURSE DESCRIPTION: (Not to exceed 80 words, and language should conform to catalog copy. See <http://www.csus.edu/aca/univmanual/crspsl.htm> - Guidelines for Catalog Course Description)

Examines the role of uncertainty in belief formation and rational decision making. Topics include: the appeal of certainty, the acceptance of uncertainty, varieties of uncertainty, the nature of risk and risk aversion, Bayes' Theorem, reasoning and decision errors under conditions of uncertainty, the problem of induction, biases and heuristics for coping with uncertainty.

Note:	
Prerequisite: Enforced at Registration: Yes <u>X</u> No ___ Six units of philosophy or instructor permission.	
Corequisite: Enforced at Registration: Yes ___ No ___	
CAN (California Articulation Number):	
Graded: Letter <u>X</u> Credit/No Credit ___	Instructor Approval Required? Yes ___ No ___
Course Classification (e.g., lecture, lab, seminar, discussion): seminar <u>C-5</u>	Title for CMS (not more than 30 characters): Uncertainty
Cross Listed? Yes ___ No <u>X</u>	If yes, do they meet together and fulfill the same requirement, and what is the other course.
How Many Times Can This Course be Taken for Credit? <u>1</u>	
Can the course be taken for Credit more than once during the same term? Yes ___ No <u>X</u>	

FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."
See the example at <http://www.csus.edu/acaf/example.htm>

Students will be able to:

1. Explain the appeal of certainty.
2. Explain why certainty in empirical matters is not achievable.
3. Explain how rational belief formation under conditions of uncertainty is achieved.
4. Summarize common errors of reasoning under conditions of uncertainty and how they can be avoided.
5. Identify and define various concepts of risk.
6. Summarize various rational decision making strategies under conditions of risk.
7. Employ basic concepts of probability theory.
8. Correctly apply Bayes' rule to problems of belief revision.

**Attach a list of the required/recommended course readings and activities [Note: it is understood that these are updated and modified as needed by the instructor(s).] This attachment should be forwarded only to your Dean's office, not Academic Affairs.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above:

Students will be given an opportunity to submit 7 essays. They are required to submit at least five, the best four of which will count toward their final grade. These essays will be roughly 3-4 single-spaced pages long. Of the essays they submit, students will select one to expand and improve upon (roughly twice the original length). They will submit the expanded version as their final assignment, which will count as their fifth essay. All essays have equal weight (20% of course grade).

For whom is this course being developed?

Majors in the Dept X Majors of other Depts ___ Minors in the Dept ___ General Education ___ Other ___

Is this course required in a degree program (major, minor, graduate degree, certificate)? Yes ___ No X

If yes, identify program(s):

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer facilities, faculty, etc.)? Yes ___ No X

If yes, attach a description of resources needed and verify that resources are available.

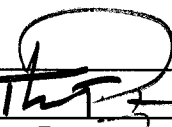
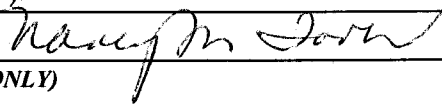
Indicate which department or programs will be affected by the proposed course (if any). None

The Department Chair's signature below indicates that affected programs have been sent a copy of this proposal form.

Approvals: If proposed change, new course or deletion is approved, sign and date below. If not approved, forward without signing to the next reviewing authority, and attach an explanatory memorandum to the original copy.

Signatures:

Date

Department Chair: 	2/27/08
College Dean or Associate Dean: 	2-19-08
CPSP (for school personnel courses ONLY)	
Associate Vice President and Dean for Academic Programs	

Distribution: Academic Affairs (original), Department Chair and College Dean. Dean's office to send original after approval to Academic Affairs, at mail zip 6016. An electronic copy must also be sent.

Syllabus: Philosophy 192U

Uncertainty

Spring 2009

- Instructor: G. Randolph Mayes
- Campus Phone: 278-7588
- Office: Mendocino 3028
- e-mail: mayesgr@csus.edu
- Office Hours: TBA.
- Website: <http://www.csus.edu/indiv/m/mayesgr>

Catalog Description

Examines the role of uncertainty in belief formation and rational decision making. Topics include: the appeal of certainty, the acceptance of uncertainty, varieties of uncertainty, the nature of risk and risk aversion, Bayes' Theorem, reasoning and decision errors under conditions of uncertainty, the problem of induction, biases and heuristics for coping with uncertainty.

Course Description

From a classical perspective, the aim of reason is to eliminate doubt and uncertainty using logic rather than blind faith or simple dogma. The scientific revolution changed this perspective. Today we understand that scientific inquiry contributes to human knowledge using logical methods that are inherently uncertain. Uncertainty, then, is not an eliminable defect of scientific rationality, but an essential feature of it. Reason is no longer understood as a tool for eliminating uncertainty, but for aiding us in its presence. In this course we will study the nature of human rationality and human irrationality under conditions of uncertainty. We will learn the extent to which insights into the nature of probability and the role of human values has allowed us to develop effective belief and decision making strategies. We will also learn the extent to which people resist and struggle to implement these strategies, as well as various evolutionary, economic and ethical theories that attempt to explain these difficulties.

Course Goals

Our goal in this course will be to develop as sophisticated an understanding of the nature of uncertainty. The course presupposes no experience in advanced mathematics or symbolic logic, but we will study basic logical and probabilistic concepts. We will learn how thinking about uncertainty has developed from ancient times, how our current understanding of uncertainty informs our understanding of human rationality, and what it implies about our ability and obligation to think and act rationally. Specifically, by the end of the course students will be able to:

1. Explain the appeal of certainty.
2. Explain why uncertainty can not be eliminated by logical means.
3. Explain how rational belief formation under conditions of uncertainty is achieved.
4. Summarize common errors of reasoning under conditions of uncertainty and how they can be avoided.
5. Identify and define various concepts of risk.
6. Summarize various rational decision making strategies under conditions of risk.
7. Employ basic concepts of probability theory.
8. Correctly apply Bayes' rule to problems of belief revision.

Course Requirements

In this course you will be given an opportunity to submit 7 essays. You are required to submit at least five, the best four of which will count toward your final grade. These essays will be roughly 3-4 single-spaced pages long. Of the essays you submit, you will select one to expand and improve upon (roughly twice the original length). You will submit the expanded version on the date scheduled for the final exam. All assignments are worth 20 pts, which is 1/5 of your total grade.

In each essay you will critically analyze an assigned article. The article will typically be one that we have not covered in class, but one which will be relevant to the material we have studied. Instructions for writing analyses are available on the website. You must follow the prescribed format.

Grading Criteria for Individual Assignments

Your written work will be evaluated primarily for the quality of the thought it represents and how well it applies the concepts learned in class. Of course, it is absolutely essential that these essays represent a college level comprehension of English. Exams and papers must be typed. By this point in your education you know the requirements of philosophical writing. If you need clarification consult: Instructions for Writing Essays

Attendance

Attendance is compulsory. You are allowed a maximum of three absences. For each absence over three your final point total will be reduced by 5 points. Please note that I do not distinguish between excused and unexcused absences. You are late if you come to class after I take roll. If you are late you must tell me on that day or it will be counted as an absence. Three times late is equal to one absence. Students who accumulate in excess of three absences may earn absence credits by attending academic events sponsored by the philosophy department and/or philosophy club.

Grading

Best 4 of 5 essays	4 x 20 pts. = 80 pts.
Final essay	20 pts.
Total Possible	100 pts.

In calculating your final grade fractional point totals are to the nearest whole point, with point totals ending in .5 being rounded up. Grades are assigned on a standard scale with minuses (-) added to scores less than 100 ending in 0 and 1 and pluses (+) added to scores less than 98 ending in 8 or 9. Hence, after rounding: : A= 92-100, A- = 90-91, B+ = 88-89, B= 82-88, B- = 80-81, etc..

Important:: You and only you are responsible for monitoring your performance in this course. Be sure to pay close attention to the drop deadline. Do not hesitate to talk to me if you are experiencing problems at any time during this course.

Collaboration Policy

You are free to work together on essays outside of class. Be advised, however, that if multiple essays exhibit striking similarities (e.g., identical sentence structure, even in places) they will all be summarily failed. Use each other as a source of ideas, but do your writing by yourself.

Late Assignment Policy

Late assignments are downgraded by 10% for every day they are late. An assignment is a day late if I receive it anytime up to 24 hours after the beginning of the class period when it is due. No assignment will be accepted over a week late.

Internet Submissions

You may submit your work by e-mail in order to stop the late clock. However, you must follow this up with hardcopy at the next class meeting. Failure to do this nullifies the original e-mail submission.

Textbooks

Understanding Uncertainty, by David V. Lindley

Fooled by Randomness, by Nassim Taleb

An Introduction to Probability and Inductive Logic, by Ian Hacking

Against the Gods, by Peter Bernstein

Rationality for Mortals, by Gerd Gigerenzer

Students with Disabilities

Students with disabilities who have special learning or testing needs must notify the instructor with the appropriate documentation by the end of the second week of the s

Caveat

With the exception of the final exam, dates, times and the schedule of readings are subject to minor revisions at the discretion of the instructor.

Course Schedule

Week	Topic	Reading	Assignment Dates
1	Uncertainty in antiquity	Bernstein Ch 1-2	
2	Gambling and the quantification of uncertainty before 1500	Bernstein Ch 3-5	Essay 1
3-4	Uncertainty and the scientific revolution	Bernstein Ch 6-10	Essay 2
5	Measuring ignorance	Bernstein Ch 12-15	
6	Quantifying degrees of belief	Bernstein Ch 16-19	Essay 3
7-8	Calculating probabilities and Bayes Rule	Hacking Ch 3-7	Essay 4
9	Probability and utility	Hacking Ch 8-10	
10-11	Decision analysis	Lindley Ch 10	Essay 5
12-13	Probability Blindness	Taleb Ch 11	Essay 6
14-15	Practical methods of coping with uncertainty	Gigerenzer Ch 1-5	Essay 7
16	Finals Week		Final Essay

College of Arts and Letters Curriculum Committee CHECK-OFF LIST FOR COURSE APPROVAL

Name of Department Philosophy Effective Date Spring 2009

Proposed Course Number 192U Course Name Uncertainty

Contact Person (Instructor) Mayes Email mayesgr@csus.edu Phone 278-6424

Projected Enrollment 25 Units of Credit 3

Has the course been offered before? no If yes, under what number?

Suggested Course Classification Seminar Unit distribution: lecture lab activity

List the prerequisite(s) for the proposed course.

6 units in philosophy or consent of instructor

For which students or programs is the course designated?

- Majors in the department
- Minors in the department
- Majors of other departments (e.g., *An A&L course designed for Business Administration majors*)
- General Service
- Other (specify) Not restricted to majors/minors

If approved by the A & L Curriculum Committee, will this course be submitted for consideration in the General Education Program? Yes No

Method of Presentation:

- Lecture Lecture/Activity Lecture/Discussion Lecture/Laboratory
- Activity Laboratory Seminar Films and/or other visuals
- Performance other (specify)

If different amounts of credit will be available for the proposed course, indicate differences in course requirements for earning the units.

If the course can be taken more than one time for credit, what is the justification for the repetition? How will the two (or more) experiences differ?

What courses currently offered in Arts and Letters or other colleges/departments most closely resemble the proposed course? Please *list* these other courses and justify why the proposed course will

not duplicate them. Not all approved courses are shown in the current catalog so please consult faculty/chair in other schools/departments where duplication might occur. Please list persons you consulted.

1. 180 Theory of knowledge. Uncertainty is an advanced seminar on a topic that is only partially treated in 180.

3.

2. 4.

Can the course be implemented within the existing departmental allocation? Yes

If the proposed course will require an expenditure of \$100 or more, append a breakdown of expenditure and source of funding.

If this is a new course, how will it be integrated into your present allocation?

1. Will you be giving up another course to make room for the proposed course?

No

2. What course(s) could you alternate in the schedule with the proposed course?

This course is just one of many 192 Philosophical Themes courses..

3. How often would you schedule the proposed course?

It will not be regularly scheduled..

4. What full-time faculty can teach the course? What other course would they give up in order to teach it?

192's are part of the standard offerings. The content changes depending on the instructor's interests.

Mayes is the only one likely to teach the course at present.

5. Realistically, what fiscal impact might the proposed course have? (*e.g., operating expense, faculty cost, staff cost, student assistants, equipment, etc.*)

None

List the objectives/goals/expected learning outcomes.

These are all explicitly stated on the attached syllabus.

What student assessment tools will be used? (*e.g., exams, papers, portfolios.*)

Mostly papers. See Syllabus.

In addition to filling out the Check-Off List form, please submit a course syllabus containing the following information: