

NEW COURSE PROPOSAL

Courses must be submitted by October 15, 2010, and finalized by the end of the fall semester for the next catalog production.

Use YELLOWED areas to enter data.

DATE (*Change if modified and redate file with current date*)

OCT 1, 2012; REV 12.5.12; REV 1.14.13 (# CHG)

PROGRAM AREA(S)

PHIL/MATH/PHYS

1. Course Information. *[Follow accepted catalog format.]*

Prefix(es) (Add additional prefixes if cross-listed) and **Course No.** PHIL/MATH/PHYS **439 (CHG 1.14.13)**

Title: PHILOSOPHY OF SCIENCE **Units:** 3

Prerequisites

Corequisites

Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols): Examines the philosophical assumptions, foundations, and implications of science and of scientific theories such as quantum physics, general relativity, and the theory of evolution. Asks what scientific knowledge reveals, how it is reached, and what role it plays in human life. The course also examines the roles that mathematics and the scientific method play in science and how these have affected its development.

Grading Scheme:

X A-F Grades

Credit/No Credit

Optional (Student Choice)

Repeatability:

Repeatable for a maximum of units

Total Completions Allowed

Multiple Enrollment in Same Semester

Course Level Information:

Undergraduate

Post-Baccalaureate/Credential Graduate

Mode of Instruction/Components (*Hours per Unit are defaulted*).

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS & HEGIS # (Filled in by the Dean)
Lecture	3	1	25		
Seminar		1			
Laboratory		3			
Activity		2			
Field Studies					
Indep Study					
Other Blank					

Leave the following hours per week areas blank. The hours per week will be filled out for you.

3 hours **lecture** per week

hours blank per week

2. Course Attributes:

X General Education Categories: All courses with GE category notations (including deletions) must be submitted to the GE website: <http://summit.csuci.edu/geapproval>. Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

X A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

B-1 Physical Sciences

B-2 Life Sciences – Biology

B-3 Mathematics – Mathematics and Applications

☐ B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

☐ C-1 Art

☐ C-2 Literature Courses

☐ C-3a Language

☐ C-3b Multicultural

D (Social Perspectives)

E (Human Psychological and Physiological Perspectives)

☒ **UDIGE/INTD Interdisciplinary**

☒ **Meets University Writing Requirement**

☐ **Meets University Language Requirement**

☐ **American Institutions, Title V Section 40404:** ☐ Government ☐ US Constitution ☐ US History

Refer to website, Exec Order 405, for more information: <http://senate.csuci.edu/comm/curriculum/resources.htm>

☐ **Service Learning Course** (Approval from the Center for Community Engagement must be received before you can request this course attribute).

3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)

A. Justification: To initiate the minor in Philosophy

B. Degree Requirement: ☐ Requirement for the Major/Minor

☒ Elective for the Major/Minor

☐ Free Elective

Note: Submit Program Modification if this course changes your program.

4. Student Learning Outcomes. (List in numerical order. You may wish to use the following resource in utilizing measurable verbs: <http://senate.csuci.edu/comm/curriculum/resources.htm>)

Upon completion, the student will be able to:

- Demonstrate familiarity with some of the fundamental issues in the philosophy of science
- Critically assess the ideas and writings of philosophers who have attempted to answer some of these fundamental questions.
- Reason inductively and deductively and from a variety of perspectives. (SP 06-06 Outcome 2.1)
- Deliberate with others and present arguments in the philosophy of science. (SP 06-06 Outcome 2.2)
- Write effectively in various forms. (SP 06-06 Outcome 4.2)

5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

Critically investigate some of the fundamental questions in the philosophy of science, such as:

- How is scientific knowledge reached, and what does it reveal about the world?
- Do objects in science like quarks and electromagnetic fields really exist?
- What if any are the philosophical implications of scientific theories such as quantum physics, general relativity, and the theory of evolution?
- What role do science and technology play in human life?

Investigate and critically assess works in the philosophy of science.

Develop and articulate views regarding some of the fundamental questions in the philosophy of science.

Does this course content overlap with a course offered in your academic program? **Yes** ☐ **No** ☒

If YES, what course(s) and provide a justification of the overlap. ☐

Does this course content overlap a course offered in another academic area? **Yes** ☐ **No** ☒

If YES, what course(s) and provide a justification of the overlap. ☐

Overlapping courses require Chairs' signatures.

6. Cross-listed Courses (Please note each prefix in item No. 1)

A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required).

List each cross-listed prefix for the course:

B. Program responsible for staffing: Mathematics and Applied Physics Programs

7. References. [Provide 3 - 5 references]

Boyd, Gasper, and Trout (Editors), *The Philosophy of Science*, MIT Press, 1991.
Zucker, *Introduction to the Philosophy of Science*, Second Edition, Prentice Hall, 1996.
Klemke, et al., *Introductory Readings in The Philosophy of Science*, Prometheus Books, 1998.
Kuhn, *The Structure of Scientific Revolutions*, Third Edition, University of Chicago Press, 1996.
Salmon, Earman, Glymour, Lennox, et. Al., *Introduction to the Philosophy of Science*, Hackett Publishing Co, 1999.
Rosenberg, *Philosophy of Science: A Contemporary Introduction*, Routledge, 2000.

8. Tenure Track Faculty Qualified to Teach This Course.

Mathematics and science faculty

9. Requested Effective Date: Fall 2013

First semester offered: Fall 2014

10. New Resources Requested. Yes ☐ No ☒

If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

C. Facility/Space/Transportation Needs

D. Lab Fee Requested (please refer to Dean's Office for additional processing) Yes ☐ No ☐

E. Other

11. Will this new course alter any degree, credential, certificate, or minor in your program? Yes ☐ No ☒

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: **October 4, 2010** of preceding year.

Priority deadline for Course Proposals and Modifications: **October 15, 2010**, of preceding year.

Last day to submit forms to be considered during the current academic year: **April 15th**.

Jesse Elliott

10/1/2012

Proposer of Course (Type in name. Signatures will be collected after Curriculum approval)

Date

GE Committee response to your request have PHIL436: PHILOSOPHY OF SCIENCE added to A3: Critical Thinking

Approved by 2012-2013 Committee:

Janet Rizzoli

Geoffrey Buhl

Catherine Burriss

Claudio Paiva

Kathy Musashi

Todd Oberson

Debra Hoffmann

Gina Farrar

Rachel Danielson

Request Submitted

Course: PHIL436 PHILOSOPHY OF SCIENCE

Area: A3 Critical Thinking

Date Submitted: 10/3/2012 5:28:01 PM

Date Approved: 12/3/2012 3:06:03 PM

1. Prepare the student to use reasoning of both inductive and deductive types

This is part and parcel of any philosophy course.

2. Focus on the analysis of written, oral, visual and/or symbolic communication

Students will have to create an original and imaginative work in philosophy and will have to critically assess the ideas and writings of philosophers.

3. Prepare the student to assess common fallacies in reasoning

Students will have to reason for and against purported philosophical implications of scientific theories,

4. Address modes of argument, rhetorical perspectives, and the relationship of language to logic

This is necessary for philosophical reasoning.

GE Committee response to your request have PHIL436: PHILOSOPHY OF SCIENCE added to UDIGE: Upper Division Interdisciplinary GE

Approved by 2012-2013 Committee:

Janet Rizzoli

Geoffrey Buhl

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Claudio Paiva

Kathy Musashi

Todd Oberson

Debra Hoffmann

Gina Farrar

Rachel Danielson

Request Submitted

Course: PHIL436 PHILOSOPHY OF SCIENCE

Area: UDIGE Upper Division Interdisciplinary GE

Date Submitted: 10/5/2012 7:11:04 PM

Date Approved: 12/3/2012 3:07:06 PM

1. Emphasize interdisciplinarity by integrating content, ideas, and approaches from two or more disciplines

The course integrates content, ideas, and approaches from philosophy, science, and mathematics.

Note: I would like to replace the course proposal document with a slightly edited new version (I changed one outcome) but there is no way to do that with this online system.

2. Include substantive written work consisting of in-class writing as well as outside class writing of revised prose. Examples of appropriate written work include: short papers, long papers, term papers, lab reports, documentation, disciplinary-based letters and memos, and essays.

Students will have to create original and imaginative works in philosophy. Substantial in class writing and revision will be a part of the course.

Approval Sheet

Program/Course: PHIL/MATH 436

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
General Education Chair		
	Signature	Date
Center for International Affairs Director		
	Signature	Date
Center for Integrative Studies Director		
	Signature	Date
Center for Multicultural Engagement Director		
	Signature	Date
Center for Civic Engagement Director		
	Signature	Date
Curriculum Chair		
	Signature	Date
AVP		
	Signature	Date