

Course Outline of Record

1. Course Code: PHIL-018
2.
 - a. Long Course Title: Philosophy of Science
 - b. Short Course Title: PHILOSOPHY/SCIENCE
3.
 - a. Catalog Course Description:

An introduction to the core philosophical issues raised by the unprecedented success of scientific inquiry since the beginning with the origins of modern science in the 16th century through the conceptual revolution in physics in the twentieth century. Topics include the logic and epistemology of scientific discoveries, observation vs. explanation, causation and the laws of nature, realism and antirealism regarding scientific knowledge, and the conflicts and compatibilities between the sciences and religions.
 - b. Class Schedule Course Description:

An introduction to the conceptual foundations of the natural sciences.
 - c. Semester Cycle (if applicable): Spring
 - d. Name of Approved Program(s):
 - PHILOSOPHY Associate in Arts for Transfer Degree (AA-T)
4. Total Units: 3.00 Total Semester Hrs: 54.00
 Lecture Units: 3 Semester Lecture Hrs: 54.00
 Lab Units: 0 Semester Lab Hrs: 0
 Class Size Maximum: 45 Allow Audit: Yes
 Repeatability No Repeats Allowed
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:

Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)

Advisory: ENG 061 and at least one previous college-level course in philosophy or the natural sciences.
6. Textbooks, Required Reading or Software: *(List in APA or MLA format.)*
 - a. Rosenberg, Alex (2011). *Philosophy of Science: A Contemporary Introduction* (3rd/e). New York, New York: Routledge. ISBN: 978-0415891
 College Level: Yes
 Flesch-Kincaid reading level: 14
 - b. Nagel, Thomas (2012). *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly Wrong* (1st/e). New York, New York: Oxford University Press. ISBN: 978-019991975
 College Level: Yes
 Flesch-Kincaid reading level: 14
 - c. Sokal, Alan (2010). *Beyond the Hoax: Science, Philosophy and Culture* (1st/e). New York, New York: Oxford University Press. ISBN: 978-019956183
 College Level: Yes
 Flesch-Kincaid reading level: 14
7. Entrance Skills: *Before entering the course students must be able:*
 - a. Construct focused theses.
 - ENG 061 - Use theses to organize paragraphs into coherent analyses.
 - ENG 061 - Demonstrate the ability to think critically and express ideas using various patterns of development.
 - ENG 061 - Demonstrate the ability to read and respond in writing beyond the literal interpretation of the text.
 - b. Select, develop, and organize ideas in a structured format.
 - ENG 061 - Use theses to organize paragraphs into coherent analyses.
 - ENG 061 - Demonstrate the ability to think critically and express ideas using various patterns of development.

- ENG 061 - Recognize features of style such as purpose, audience and tone integrate these elements into academic and professional writing.
- ENG 061 - Demonstrate the ability to read and respond in writing beyond the literal interpretation of the text.
- c. Compose essays using combined rhetorical modes.
 - ENG 061 - Recognize features of style such as purpose, audience and tone integrate these elements into academic and professional writing.
 - ENG 061 - Demonstrate the ability to read and respond in writing beyond the literal interpretation of the text.
- d. Demonstrate awareness of audience by use of appropriate tone and diction in all compositions.
 - ENG 061 - Recognize features of style such as purpose, audience and tone integrate these elements into academic and professional writing.
- e. Exhibit proficiency in correct usage of grammar, punctuation, and mechanics in all compositions.
 - ENG 061 - Use theses to organize paragraphs into coherent analyses.
- f. Analyze, explain, evaluate, and contrast selected prose and poetry, both from text and researched sources.
 - ENG 061 - Demonstrate the ability to read and respond in writing beyond the literal interpretation of the text.
- g. Demonstrate skill in researching information, including CD-ROM and on-line sources.
 - ENG 061 - Demonstrate the ability to use research skills including library resources such as books, periodicals, electronic databases and online resources such as the internet.
- h. Paraphrase, summarize, and quote using MLA documentation for all published sources in all compositions.
 - ENG 061 - Utilize a handbook to properly cite and document source material in MLA format.
- i. Generate and develop ideas, and to clarify and organize thoughts through writing.
 - ENG 061 - Use theses to organize paragraphs into coherent analyses.
 - ENG 061 - Demonstrate the ability to think critically and express ideas using various patterns of development.
 - ENG 061 - Demonstrate the ability to read and respond in writing beyond the literal interpretation of the text.

8. Course Content and Scope:

Lecture:

1. The question of the demarcation between science and pseudo-science.
2. Deductive and inductive inferences.
3. The inference to the best explanation.
4. Occam's Razor and ontological parsimony.
5. The nature of scientific explanations.
6. The analysis of causal relations.
7. The status of the natural laws.
8. Realism about scientific theories.
9. Antirealism about scientific theories.
10. The measurement problem in quantum mechanics.
11. The units of selection problem in philosophy of biology.
12. Why has modern science been so successful?

Lab: (if the "Lab Hours" is greater than zero this is required)

9. Course Student Learning Outcomes:

1. Students will summarize and discuss the basic conceptual foundations of scientific inquiry.
2. Students will recognize that the borders between science and philosophy, and between physics and metaphysics, are not sharp ones.
3. Students will discriminate between proposed examples of pseudo-science and genuine science, and critically defend their judgments.

10. Course Objectives: *Upon completion of this course, students will be able to:*

- a. Demonstrate knowledge of the characteristic logical inferences governing scientific explanation.
- b. Explain how scientific explanations of natural phenomena are distinct from the prediction and control of natural phenomena.

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- c. Describe the contribution of the now-defunct philosophy of logical positivism to contemporary philosophy of science.
- d. Describe how a law of nature differs from an exceptionless regularity.
- e. Explicate a philosophical argument supporting scientific realism.
- f. Explicate a philosophical argument supporting scientific antirealism.

11. Methods of Instruction: (*Integration: Elements should validate parallel course outline elements*)

- a. Discussion
- b. Lecture

Other Methods:

a. Group presentations b. Video c. Field trips d. Guest speakers e. Skill demonstration

12. Assignments: (*List samples of specific activities/assignments students are expected to complete both in and outside of class.*)

In Class Hours: 54.00

Outside Class Hours: 108.00

a. In-class Assignments

1. Attendance of lectures by instructor and occasional guest speakers, including the taking of detailed notes thereon.
2. Viewing of films, including the taking of notes thereon.
3. Listening to sound recordings and taking notes thereon.
4. Special reports by students, in panel or singly.
5. Examinations of various types, such as essay and multiple choice.

b. Out-of-class Assignments

1. Readings in the textbooks and in recommended supplementary literature.
2. Composition of brief analytical essays.

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- College level or pre-collegiate essays
Essays (three five-page papers on assigned topics)
- Written homework
- Term or research papers
- True/false/multiple choice examinations
- Mid-term and final evaluations

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

IGETC Area 3: Arts and Humanities

B: Humanities

CSU GE Area C: Arts, Literature, Philosophy and Foreign Languages

C2 - Humanities

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

18. Materials Fees: Required Material?

Material or Item	Cost Per Unit	Total Cost
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19. Provide Reasons for the Substantial Modifications or New Course:

ENG 70/71 change

- 20. a. Cross-Listed Course (*Enter Course Code*): *N/A*
- b. Replacement Course (*Enter original Course Code*): *N/A*

21. Grading Method (*choose one*): Letter Grade Only

22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000461855
- b. T.O.P. Code [CB03]: 150900.00 - Philosophy
- c. Credit Status [CB04]: D - Credit - Degree Applicable
- d. Course Transfer Status [CB05]: A = Transfer to UC, CSU
- e. Basic Skills Status [CB08]: 2N = Not basic skills course
- f. Vocational Status [CB09]: Not Occupational
- g. Course Classification [CB11]: Y - Credit Course
- h. Special Class Status [CB13]: N - Not Special
- i. Course CAN Code [CB14]: *N/A*
- j. Course Prior to College Level [CB21]: Y = Not Applicable
- k. Course Noncredit Category [CB22]: Y - Not Applicable
- l. Funding Agency Category [CB23]: Y = Not Applicable
- m. Program Status [CB24]: 1 = Program Applicable

Name of Approved Program (*if program-applicable*): PHILOSOPHY

Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

23. Enrollment - Estimate Enrollment

First Year: 35
Third Year: 30

24. Resources - Faculty - Discipline and Other Qualifications:

- a. Sufficient Faculty Resources: Yes
- b. If No, list number of FTE needed to offer this course: *N/A*

25. Additional Equipment and/or Supplies Needed and Source of Funding.

N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. (*Explain:*)

N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Michael Smith Origination Date 11/09/17