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Office Hours: TR, 11:00-12:00pm, or by appointment

Philosophy of Science: PHIL 3372-04

2:00-3:20pm, TR, CHSS 00220

COURSE DESCRIPTION: A survey of topics in philosophy of science including the logic of explanations in the physical and social sciences, the relations of science to the realm of values, and a look at the “mind-body problem.” 3.0 Credit hours.

Goals: The goals of this course are the following:

- 1.) To develop within students a deeper understanding and appreciation of the history and function of the philosophy of science.
- 2.) To develop in students an ability to intelligently communicate their thoughts and values about issues related to the philosophy of science.

Objectives: In this course you will work towards identifying:

1. What science is and the kind of knowledge that science produces.
2. The power of inductive reasoning and its problems.
3. Karl Popper’s falsificationism and its problems.
4. Kuhn’s idea of the revolutionary history of science.
5. Realism and antirealism about science.
6. The difference between the natural and social sciences.

TEXTS:

1. Ladyman, James. *Understanding Philosophy of Science*. London; New York: Routledge, 2002.
2. Rosenberg, Alexander. *Philosophy of Social Science*. 5th edition. Boulder, CO: Routledge, 2016.

ASSESSMENTS AND ASSIGNMENTS:

1. Selected readings and reflection questions will be assigned to assess your ability to identify competing philosophical claims in the philosophy of science. These reflection questions will be posted on BlackBoard and you will be required to hand them in there in either document or pdf format. Reflection papers should be at least one page long (approximately 300 words), double-spaced, and utilize 12 point Times New Roman font. Before uploading papers on blackboard make sure to save them in the following manner: last name, first name, reflectionpaper number.

Accordingly, Jane Doe would label her first reflection paper: Doe, Jane, Reflection Paper 1. Papers saved in any other way will not be accepted.

2. I will administer two in class exams, including the final exam. If you miss an exam because of an unexcused absence you will not be allowed to make it up and will receive a grade of zero. The final exam WILL be cumulative.

3. You will be given pop quizzes to assess your comprehension of the reading assignments throughout the course of the semester. These quizzes will be given in class and/or assigned on BlackBoard. If you miss a quiz because of an unexcused absence you will not be allowed to make it up and will receive a grade of zero.

4. You will be required to participate in in-class brainstorming sessions and think-pair-share activities. The exemplary student will write down whatever comes to her or his mind during brainstorming and think-pair-share sessions. You will be selected by lot to share your thoughts with your peers. Easy participation points will be given for brainstorming and think-pair-share activities.

5. You will be required to contribute to in-class dialogue. This means you must participate! The exemplary student will bring her reflections about the reading and out of class assignments to bear in class discussions. Easy participation points will be given for in class dialogue.

GRADING: Your grade for this course will be based on the following categories: test scores, reflection papers, pop quizzes, and class participation. The categories will be weighted as follows:

2 Exams: 40%, 3 Reflection Papers: 40%, Pop Quizzes: 10%, Class Participation: 10%

Grading Scale

A (100-90), B (89.9-80), C (79.9-70) D (69.9-60), F (59.9 and lower)

MAKE UPS AND LATE SUBMISSIONS:

For late papers, I will deduct 10% of the possible points (e.g., 10 points for regular term papers and 20 points for the final) from your paper grade for each 1-hour period, or part thereof, from the time that the paper was due until I receive the paper. Because these assignments will be given weeks in advance, no excuses for late submissions will be accepted. Exams submitted in any unreadable format will be treated as if no paper was submitted. If you submit an exam in an unapproved format prior to the deadline, but I do not receive the appropriate electronic format until after the deadline, I will deduct points according to this late policy up until the acceptable format is provided. The only exceptions to the policy outlined above relate to university policies and/or state laws concerning religious holydays and other mandated exceptions.

ATTENDANCE:

Attendance records will NOT be used in determining your grade. However, class attendance is strongly encouraged as all students are responsible for any material covered or assignments given in class even if it does not appear in the texts or on the website. It will be quite difficult to do well in this class without attending regularly. On many occasions, class discussion will provide essential details for understanding the concepts in the course.

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS POLICY:

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: “a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20....” A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

Academic Policy Statement 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed. For a complete listing of the university policy, see:

<http://www.shsu.edu/dotAsset/0953c7d0-7c04-4b29-a3fc-3bf0738e87d8.pdf>

ACADEMIC DISHONESTY:

In accordance with the University's Academic Policy Statement 810213, found in the link below, the following statement applies to all students in my classes:

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion, and the abuse of resource materials. It is essential that students use proper attribution when utilizing any sources. Plagiarism will be referred to appropriate university authorities for disciplinary action. All papers will be submitted electronically through [Turnitin.com](http://www.turnitin.com), which will be used to check for plagiarism.

<http://www.shsu.edu/dotAsset/728eec25-f780-4dcf-932c-03d68cade002.pdf>

STUDENTS WITH SPECIAL NEEDS-DISABILITY SERVICES:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and email disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

<http://www.shsu.edu/dotAsset/7ff819c3-39f3-491d-b688-db5a330ced92.pdf>

COURSE CONTENT DISCLAIMER:

In this course, students may be required to read text or view materials that they may consider offensive. The ideas expressed in any given text do not necessarily reflect the views of the instructor, the Psychology and Philosophy Department, the Writing Program, or Sam Houston State University. Course materials are selected for their historical and/or cultural relevance, or as an example of stylistic and/or rhetorical strategies and techniques. They are meant to be examined in the context of intellectual inquiry of the sort encountered at the university level.

For more information on policies, please visit: <http://www.shsu.edu/syllabus/>

WRITING CENTER:

I encourage you to take advantage of the writing services offered at the Writing Center. The Sam Houston Academic Success Center for Reading and Writing serves the students, staff, and faculty of SHSU. Their goal is to help people become better writers and so develop more confidence in their writing abilities.

ASC tutors provide one-on-one and small group instruction for reading and writing. They help students on assignments ranging from English composition essays to science lab reports, résumés, scholarship and job application letters, even M.A. theses and Ph.D. dissertations.

Also, ASC tutors help students learn preparatory prewriting, revising, and editing skills by working with them on the writing tasks they bring in, see:

<https://www.shsu.edu/centers/academic-success-center/writing>

Introduction: Reading of the Course Syllabus

January 18: *Reading of the Course Syllabus*

January 23: (Ladyman, 1-8) *Introduction*

I: Induction and Inductivism

January 25: (Ladyman, 11-17) *The sceptics challenge and the scientific revolution*

January 30: (Ladyman, 18-30) *The new tool of induction and (naïve) inductivism*

II. The Problem of Induction and Inductivism

February 1: (Ladyman, 31-40) *The problem of induction*

February 6: (Ladyman, 40-52) *Solutions and dissolutions of the problem of induction*

February 8: (Ladyman, 52-61) *Inductivism and the history of science, theory and observation*

III. Falsificationism

February 13: (Ladyman, 62-74) *Popper and the critique of Marxism and psychoanalysis, Popper's solution to the problem of induction (First Reflection Paper Due!)*

February 15: No Class

February 20 (Ladyman, 74-81) *The context of discovery and the context of justification, the Duhem problem*

IV. Revolutions and Rationality

February 22: (Ladyman, 81-91) *Problems with falsificationism*

February 27: (Ladyman, 93-105) *The received view of science, Kuhn's revolutionary history of science, paradigms and normal science*

March 1: (Ladyman, 105-123) *The Copernican Revolution, theory and observation, incommensurability, relativism and the role of reason in science*

March 6: Midterm Exam

March 8: Class Cancelled (**Classes Resume After Spring Break**)

V. Scientific Realism

March 20: (Ladyman, 129-142) *Scientific realism, appearance and reality, the metaphysics of the external world, realism and idealism*

March 22: (Ladyman, 142-160) *Idealism, semantics, logical positivism, semantic instrumentalism and reductive empiricism, truth, standard scientific realism, antirealism*

VI. What is the Philosophy of Social Science?

March 27: (Rosenberg, 1-10) *What is philosophy?, philosophical problems of social science, one central problem with the philosophy of social science* **(Second Reflection Paper Due!)**

VII. The Methodological Divide: Naturalism vs Interpretation

March 29: (Rosenberg, 11-23) *Naturalism vs. interpretation, progress and prediction, empiricism and logical positivism in the philosophy of social science, the empiricist diagnosis: why social science fails to discover laws*

April 3: (Rosenberg, 23-33) *Rejecting empiricism for intelligibility, taking sides in the philosophy of social science, naturalism vs. interpretation*

VIII. The Explanation of Human Action

April 5: (Rosenberg, 35-42) *Action not behavior, making folk psychology explicit*

April 10: (Rosenberg, 42-54) *Reasons and causes, can reasons work like causes*

IX. Actions, Intentionality, and the Mind-Body Problem

April 12: (Rosenberg, 55-66) *The logical connection argument, intentionality*

April 17: (Rosenberg, 66-73) *Intentionality and extensionality*

X. Behaviorism in the Behavioral Sciences

April 19: (Rosenberg, 73-81) *Behaviorism in the behavioral sciences, causation and purpose* **(Third Reflection Paper Due!)**

April 24: (81-92) *The experimental analysis of behavior, the ghost in behaviorism machine, from behaviorism to cognitive neuroscience*

XI. The Problems of Rational Choice Theory

April 26: (93-99) *The theory of rational choice, rational choice and the invisible hand*

May1: (99-108) *Folk psychology and marginal utility, the economist as the behaviorist*

May 4: (108-120) *Instrumentalism and modelling in economics, the eclipse of behaviorism in psychology and economics*

Tuesday May 8: FINAL EXAM (3:30-5:30pm)