

PHIL 2303-01 (40987): CRITICAL THINKING

Sam Houston State University, Summer I 2019
SHSU Online

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Course Description: Designed to improve students' ability to think critically. The course covers the fundamentals of deductive reasoning, the identification of common fallacies, and an introduction to inductive reasoning, as well as sensitizing the students to some of the ways information is distorted, e.g., by advertising and news management. Credits: 3.0

Required Text: Balin and Battersby, *Reason in the Balance: An Inquiry Approach to Critical Thinking*, 2nd ed. (Hackett, 2016). ISBN: 978-1-62466-477-9, \$49.

Class Description: The overarching goal of a Critical Thinking course is to teach students methods that are used generally across cultures to differentiate between strong or valid inferences and those inferences that are weak or invalid. To this end topics covered include the deductive and inductive reasoning involved in testing hypotheses, generalizing on the basis of samples, the basics of comparative experimental design, and an emphasis on recognizing and explaining various fallacious inferences such as jumping too quickly from a correlation to a cause and effect conclusion, and classics like Straw Man, Ad Hominem, Begging the Question, and False Dilemma. One of the central goals of the course is to better equip students, to recognize and assume their responsibilities as citizens in a democratic society by learning to think for themselves, by engaging in public discourse about issues in a way that strives to present fairly the various sides of an issue (avoiding the Straw Man), that does not prematurely close off discussion (avoiding Begging the Question), that focuses on relevant considerations (avoiding Ad Hominem), that considers a full range of options (avoiding a False Dilemma), and that seeks and uses the best evidence available. Course Format: This course will be primarily taught in a lecture format. Students are encouraged to ask questions during the lecture.

Student Learning Outcomes:

A. Students who complete the course should recognize and apply reasonable criteria for the acceptability of social research. Thus, the student will become aware of the need to think in terms of testable hypotheses, hypotheses that generate predictions that can be compared with data. Furthermore, if we say that the data support a particular hypothesis because its predictions came true, the student will recognize that we must first conceive of and rule out alternative possible explanations before we simply accept that the hypothesis has been confirmed. To that end students will note that if the occurrence of A is correlated with the occurrence of B, this may be because (a) A causes B, (b) B causes A, (c) C causes both A and B, or (d) chance. Homework exercises discussed in class will deal with a number of specific illustrations of this principle. In addition, student will become aware of the fact that generalizations need to be supported by samples that are large enough and relatively unbiased--not simply by a vivid anecdotes that typically provide biased samples of size one. Again, homework examples will present a variety of cases for analysis. Finally, student will be able to design an experiment whose results avoid (at least obvious) confounding.

B. The student will be able to differentiate and analyze differing points of view by dealing with homework problems that can involve controversial conclusions and by working through these problems in class.

Skill Objectives:

A. Critical Thinking: The usual introduction to the course is to present concepts such as premise, conclusion, inference indicator words like "since" and "hence," and then the homework is to look at specific bits of prose to be able to successfully identify those that contain arguments--reasoning for conclusions--versus other forms of prose such a narratives. What follows the introduction will involve practice in distinguishing deductive reasoning--reasoning where the truth of the premises would absolutely guarantee the truth of the conclusion--from inductive reasoning wherein if the premises (the evidence, data, etc.) are true they render the conclusion to some degree more likely to be true than false. This matter of degree then will be explored with specific homework examples. Finally, there is a set of mistakes in reasoning that are wide-spread such as False

Dilemma, Begging the Question, Straw Man, Ad Hominem, etc. After becoming familiar with the terminology, the students are asked to apply the fallacy labels to specific examples of reasoning and to give an explanation of why a label fits as a way of expressing the particular mistake.

B. Communication Skills: There will be regular homework assignments, usually problems from the textbook, which require students (a) to prepare analyses of the problems assigned and then (b) review these analyses in class as we discuss the homework problems. These exercises will emphasize the importance of precise expressions and relevant evidence to effective communication.

C. Empirical and Quantitative Skills: This objective involves the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. To this end the basics of the logic of hypothesis testing, using both inductive and deductive reasoning, are presented in a step-by-step fashion. This includes familiarizing students with concepts such as a random sampling error and biased sampling, the use of control groups in experimentation in order to rule out confounding variables, and probabilistic reasoning.

D. Social Responsibility: Fundamental to the concept of responsibility is the ability to give reasoned explanations for specific courses of action. Often the examples in the homework relate to giving reasons in response to issues that have presented or may present themselves to people in the course of their lives as citizens. The point of the process in the classroom is to stress careful analysis of the reasoning and to offer a diagnosis of its strength or weakness based on consideration of the evidence, how it was procured, whether there is importantly relevant information that has been neglected, etc. This will strengthen students' ability to engage effectively as a participant in regional, national, and global communities.

Course Schedule: The dates and content listed are tentative and subject to change by the whim of the instructor. All due dates should be considered to be by 11:59 PM CDT on that date. All page numbers refer to Bailin and Battersby, *Reason in the Balance*.

Week #1 (May 29th - June 2nd): The Nature of Inquiry

Unit #0: Course Introduction

Various Orientation Activities due by Friday May 31st

Unit #1: The Nature of Inquiry

Reading: Chapter 1-2 (pp. 3-20; 25-47)

Wiki #1: Ch. 1, Ex. #1, 7, 10 (pp. 21-4); Ch. 2, Ex. #3 (pp. 49-50)

Discussion #1

Exam #1

Unit #1 assignments and Exam #1 are due by Sunday June 2nd

Week #2 (June 3rd – June 9th): Probative Arguments and Fallacies

Unit #2: Argument Types and Structure

Reading: Chapter 3 (pp. pp. 55-70)

Wiki #2: Ch. 3, Ex. #1, 3, 5 (pp. 71-3)

Discussion #2

Unit #3: Probative Arguments and Fallacies

Reading: Chapter 4 (pp. 75-100)

Wiki #3: Ch. 4, Ex. #1, 4 (pp. 101-104)

Discussion #3

Exam #2

Unit #2 and #3 assignments and Exam #2 are due by Sunday June 9th

Week #3 (June 10th - June 16th): Inductive Argument Types and Evidence

Unit #4: Types of Inductive Arguments

Reading: Chapter 5 (pp. 105-126)

Wiki #4: Ch. 5, Ex. #1-3 (pp. 127-130)

Discussion #4

Unit #5: Authority and Expertise
Reading: Chapter 5 (pp. 105-126)
Wiki #5: Ch 5, Ex. #1-3 (pp. 127-130)
Discussion #5

Unit #6: Linguistic Analysis and Rhetorical Arguments
Reading: Chapter 6 (pp. 133-154)
Wiki #6: Ch, 6, Ex. #1, 2 (pp. 155-6)
Discussion #6

Exam #3

Unit #4, 5 and 6 assignments and Exam #3 are due by Sunday June 16th

Week #4 (June 17th - June 23rd): Statistical Arguments and Scientific Methodology

Unit #7: Conditional Probabilities
Wiki #7: Probability handout
Discussion #7

Unit #8: Inquiry into Natural Science
Reading: Chapter 12 (pp. 293-327)
Wiki #8: Ch. 12, Ex #1, 4 (pp. 328-329)
Discussion #8

Unit #9: Inquiry into Social Science
Reading: Read Chapter 13 (pp. 335-366)
Wiki #9: Ch. 13, Ex. #1, 2 (pp. 367)
Discussion #9

Exam #4

Unit #7, 8 and 9 assignments and Exam #4 are due by Sunday June 23rd

Week #5 (June 24th - 26th): Interpretive and Evaluative Judgments

Unit #10: Inquiry into Aesthetics
Reading: Chapter 14 (pp. 371-403)
Wiki #10: Criteria and Artistic Medium
Discussion #10

Unit #11: Inquiry into Ethics
Reading: Chapter 15 (p. 409-427)
Wiki #11: Ex. #1, 2, 4 (pp. 428-430)
Discussion #11

Exam #5

Final Exam

Unit #10 and #11 assignments are due by Wednesday June 26th. The Final Exam is due by Thursday June 27th.

Evaluation: There will be six exams throughout the course, including the final exam. The best five exam scores will be used to calculate your final grade. In addition to the exams, you will be expected to contribute to a series of collaborative assignments completing the exercises applying the content of the unit, as well as contributing to discussions regarding course content. The best 10 of each of these Unit assignments will be used to calculate your grade. More information on the requirements for these assignments, see the "Assignment Guidelines" link on Blackboard.

The following weighting will be used to calculate your grade:

Exams (best 5 of 6) x 15% ea. =	75%
Contribution to Course Wikis (best 10 of 11)	15%
Participation in Discussion Forums (best 10 of 11)	10%

Your rounded average of these assignments will determine your grade, based on the following scale: A = 100-89.5; B = 89.4-79.5; C = 79.4-69.5; D = 69.4-59.5; F = 59.4-0.

This course satisfies the Writing Enhanced requirements, since the exams and discussion assignments constitute more than 50% of the total course grade.

Expectations, Suggestions and Mandates for an efficient class:

1. This is a four-week accelerated summer course. This means that the work typically done over several weeks during the regular semester you will often be asked to be completed within a single week. For that reason, it is vitally important that you start your assignments early, attempt to keep to the course due dates, and not fall behind. If you do fall behind, make every attempt to contact me as early as possible.
2. Especially true in philosophy more than most other subjects, diligence is important. Some of the reading will be difficult—since we are looking at excerpts from some of the most profound texts in the history of the world. The difficulty of the subject is indirectly proportional to the amount of work put into the course. Expect to have up to ten hours a week of reading and thinking about the material in order to get an "A" for the course. Additionally, for these reasons, attendance is of vital importance. *If you do not keep up with the reading and exercises, do not expect to pass this class!*
3. Please be respectful of each other in the class. There will be times when students disagree about a topic discussed in class. This is a didactic process, not a combative one.
4. Please feel free to make mistakes. We all will from time to time, even your omniscient instructor.
5. Please feel free to make an appointment to discuss the material you do not understand. Waiting until the last moment in the semester to catch up is not advisable. I am excellent at fixing small problems, but horrendous at fixing large ones. The only difference between small and large problems is time.
6. Have fun! The material is only as dry as you make it out to be. Sharpening one's mind can be an exhilarating process.