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Office Hours: MWF 10:00-10:50 and other times by appointment.

1. CATALOGUE COURSE DESCRIPTION PHIL 2303 Critical Thinking--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. Credit 3.

2. CLASS DESCRIPTION: The overarching goal of a Critical Thinking course is to students teach 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, 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 a 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 (meeting the required Burden of Proof).

3. COURSE OBJECTIVES/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) a third factor 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, students will become aware 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, students will be able to design an experiment to avoid obvious confounding.

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

4. 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 related homework is to look at specific bits of prose to be able to successfully identify those that contain arguments--reasoning for conclusions--versus those that contain other forms of prose such a narratives. What follows the introduction will often 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 needs to 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 write up their analyses of the problems assigned and then (b) bring their analyses to class where they serve as the basis for class discussion, either in small groups or as a whole class. The writing and the oral discussion are to be focused on giving reasons why a particular analysis fits a given homework item.

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 Bayes' theorem.

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. etc. This strengthens the students' ability to engage effectively as a participants in regional, national, and global communities.

5. TEXTS: Lewis Vaughn *The Power of Critical Thinking* 5th edition
 Thomas Gilovich *How We Know What Isn't So*

BLACKBOARD: The syllabus and many other essential handouts will be posted on Blackboard..

6. GRADES:

A. EXAMS and QUIZZES: The course is broken into three Units, and each Unit has a 40 point quiz for 120 points. There are 100 point exams after Unit I and Unit II for 200 points, and there are three writing assignments worth 10 points each for a total of 30 points, plus a 150 point Final Exam, so there is an overall possible point total of 500 from quizzes, assignments, and exams. All of the exams are cumulative in the sense that some material from previous Units may appear on the exam for a subsequent Unit. All exams are announced in advance, and there will be time for review before each of them. The exams will often involve essay questions and problem solving, applying the concepts learned through the readings, class discussion, and doing homework assignments. Homework and extra credit opportunities contribute to the overall point total as described below. To determine your final average, simply divide your overall point total by 5. The grading scale is 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, and below 60 = F.

B. THREE WRITING ASSIGNMENTS WORTH 10 POINTS EACH. They involve FactCheck.org, the Skeptical Inquirer, and Unspinning the Planned Parenthood video. See Blackboard for details.

C. HOMEWORK: Since this is a practical course, there will be regular homework assignments and they are not optional. The typical assignment will ADD one point to your point total. One point will be SUBTRACTED for every assignment not done acceptably. "Acceptably" means that EVERY PROBLEM IS ATTEMPTED, and the assignment is turned in ON TIME--no excuses accepted. The homework will largely consist of learning to write and re-write arguments and parts of arguments so that the student learns: (1) to recognize when an argument is present, (2) to discern the parts of argument, (3) to determine the kind of argument, (4) to make judgments about the probative value of arguments, and (5) to produce good arguments. The written homework exercises provide a way for students to clarify their thinking and develop better writing skills. Students are expected to use this feedback to improve their writing and arguments on the exams. This course satisfies the requirements for being listed as Writing Enhanced because students have an opportunity to receive low-stakes feedback on their writing and written assignments, including exams, count for more than 50% of the course grade.

D. EXTRA CREDIT: The Fallacy Hunt--This is due on or before the final exam and are open only to those who have turned in over 50 % of the homework and missed no more than 4 classes. Find "classroom usable" examples of the fallacies discussed, but no more than one advertisement. The fallacies must be properly referenced, and you must analyze the argument in the fallacious item and explain specifically how it goes wrong. **Limited to 3 fallacy items and credit of up to 5 points for each item.** Turn in the examples with your analyses.

7. ABSENCES: In accordance with University regulations, I take roll every period. I make no use of the absence record in determining grades. However, if you do not attend class, **YOU MUST DROP THE COURSE**; otherwise you will receive an F. The last day for dropping a course is Friday, November 10.

8. MAKE-UPS: I **hate** to give make-ups. If one is necessary, it is likely to be longer and harder than the regular test. You must have a good reason for missing a test; having another test the same day, for example, does not count as a good reason. If you do miss a test, see me as soon as possible. Your excuse must be written out and appropriately documented. ANY EXCUSE THAT CANNOT BE VERIFIED WILL RESULT IN A GRADE OF ZERO FOR THAT EXAM. If you do have a valid excuse, then we should make the arrangements for you to take a make-up AS SOON AS POSSIBLE.

9. STANDARD POLICIES: Each of these standard policies is stated in full on the Blackboard website for this course under Course Documents. I have extracted from the full statement a key element as a reminder of the policy in its entirety, but the student must download the posting on Blackboard to have the full policy statement. Here are the standard policy matters: (1) NOTICE TO PERSONS WITH A DISABILITY: No accommodation can be made until you register with the office of Services for Students with Disabilities. There will be no retroactive accommodations. (2) ACADEMIC DISHONESTY: Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. (3) CLASSROOM RULES OF CONDUCT: Students are expected to assist in maintaining a classroom environment that is conducive to learning. (4) VISITORS IN THE CLASSROOM: It is at the instructor's discretion whether or not he/she will be allowed to remain. (5) ABSENCE ON RELIGIOUS HOLY DAYS: A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present in advance to each instructor involved a written statement concerning the religious holy day(s). (6) Course evaluations will be done near the end of the semester. (7) Q-DROPS: A Q-drop is a drop made after the last date for tuition refunds (12th class day for fall/spring; 4th class day for summer) but before the date for which a drop would result in the grade of 'F' as published in the Academic Calendar. **Students will be allowed no more than five Q-drops during their academic career at Sam Houston State University.** Classes that are dropped prior to the Q-drop date will not count toward the limit. (8) CELL PHONES, PAGERS, IPODS, ETC. are never to be used in class. Use during an exam will constitute an automatic F. If there is an emergency situation, let the instructor know in advance. Here are some relevant websites for further documentation
<http://www.shsu.edu/syllabus/>

(1) University Code of Conduct <https://netreg.shsu.edu/mirror/codeofconduct.html>

(2) Go to <http://www.shsu.edu/syllabus/> for references to the University's policy on Academic Dishonesty, the Observance of Religious / Holy Days, Americans with Disabilities Act – Students with Disabilities, and Visitors in the Classroom.

TENTATIVE SCHEDULE PHIL 2303.06 Critical Thinking Fall 2017 MWF 9:00-9:50
August CRN 80800 CHSS 220

Unit I. Deductive Logic: Reasoning as a Structured Process

Wed 23 The problem: *Academically Adrift*. Start handout Ex. Set No. 1 problems in class.

Fri 25 Critical Thinking pre-test.

Mon 28 HURRICANE HARVEY

Wed 30 HURRICANE HARVEY

September

Fri 01 HURRICANE HARVEY

Mon 04 Labor Day Holiday

Wed 06 Read Vaughn *The Power of Critical Thinking* (PCT) Chap. 1 pp. 3-20 and Assignment #1: (Finish Handout Exercise No. 1, do Chap. 1 Ex. 1.3, pp. 21-22, and do Ex. 1.7, p. 25. NOTE: do the unstarred items only in both exercise sets.)

Fri 08 Look at Handouts No. 2 and No. 3 to introduce deductive reasoning and read PCT Chap. 3 pp. 58-78. Assignment #2: (Do unstarred problems only in both Ex. 3.2 pp. 70-71 and Ex. 3.4, p. 78)

Mon 11 Read Gilovich Chaps. 1 & 2. Read PCT Chap. 3, pp. 79-85. Assignment #3: (Do Handout exercises No. 2 and No. 3)

Wed 13 Assignment #4: (Do unstarred problems in Ex 3.5 p. 84 and do Handout exercise No. 4)

Fri 15 Read Handout No. 5 and read a Handout on the logic of hypothesis testing.

Mon 18 Assignment #5:(Do problems in Handout No. 5).
 Wed 20 Read PCT Chap. 2. Assignment #6:(Do the unstarred items in Ex. 2.4 and 2.5, pp. 51-53).
 Fri 22 **FIRST QUIZ--40 points. BRING A SCANTRON.**
 Mon 25 Read PCT Chap 7 pp. 230-246 and pp. 254-256, and a handout on the Square of Opposition.
Assignment #7:(Do 7.3, pp. 241-242, and 7.4, p.246).
 Wed 27 Review for First Unit Exam
 Fri 29 **FIRST UNIT EXAM--100 points. NO SCANTRON NEEDED**

October

Unit II. Inductive Reasoning, The Quality of the Evidence, and Evaluating Explanations

Mon 02 Read a Handout on Sampling and Generalizing and PCT Chap. 8, pp. 265-279. Assignment #8:(Ex. 8.1, pp. 277-278, Ex. 8.3, pp. 278-279).
 Wed 04 Read PCT Chap. 8, pp. 289-304, and a Handout on Comparative Experimentation.
 Fri 06 Read Gilovich Chap. 3. Assignment #9:(Ex. 8.8 pp. 305-308, NOTE: #1 to #15 only)

 Mon 09 Read Gilovich Chap. 4 and read PCT Chap. 8, pp. 281-289. Assignment #10:(Ex. 8.7 pp. 288-289)
 Wed 11 Read a Handout on Bayes Theorem. **FIRST WRITING ASSIGNMENT DUE—the FactCheck.org assignment.**
 Fri 13 PCT Chap. 9 pp. 319-331. Assignment #11:(Ex. 9.2 p. 328 and Ex. 9.5 pp. 330-331)

 Mon 16 PCT Chap. 9 pp. 332-363. Assignment #12:(Ex. 9.7 p. 348-349 and Ex. 9.9, #3, #5, and #6 p. 358)
 Wed 18 Read Gilovich Chap. 5. **SECOND QUIZ--40 points—NO SCANTRON NEEDED**
 Fri 20 Read PCT Chap 10 pp. 366-392. Assignment #13:(Ex. 10.5 and Ex. 10.6, pp. 390-392)

 Mon 23 Read PCT Chap. 10 pp. 392-416. Assignment #14:(Ex.10.10 pp. 412-414)
 Wed 25 Review for Second Unit Exam.
 Fri 27 **SECOND UNIT EXAM--100 points. NO SCANTRON NEEDED**

Unit III Argument Mapping, Critiquing Definitions, and Analyzing Common Fallacies

Mon 30 Read PCT Chap. 5 pp. 155-170 and Handout No. 1. Assignment #15:(Ex. 5. 2 #2-#13)
November
 Wed 01 Read PCT Chap. 5, pp. 170-186 a handout on Definitions. Assignment #16: (Ex. 5.2 #15-#25 and Ex. 5.3 #1-#5, pp. 184-185)
 Fri 03 Read Gilovich Chap. 6. Assignment #17: (Do Handout No. 24 Fallacy analysis problems #1-#12)

 Mon 06 Read Gilovich Chap. 7. Assignment #18: (Do remaining Handout No. 24 fallacy analysis items.
 Wed 08 Read Gilovich Chap. 8 **SECOND WRITING ASSIGNMENT DUE—the Skeptical Inquirer assignment.**
 Fri 10 Read PCT Chap. 4, pp.109-130, and a handout on Probability and Premises. Assignment #19:(Ex. 4.2 #1-#13, p. 148)

 Mon 13 Read PCT Chap. 4, pp. 130-146. Assignment #20:(Ex. 4.1, #1-21, and Ex. 4.3 #4, 5, 9, 10)
 Wed 15 **THIRD QUIZ—40 points**
 Fri 17 Read PCT Chap. 3, pp. 86-93 and the handout of Lengbeyer article on Argument Mapping.

Mon 20 Read handout article “Why We Argue” by Aikin and Talisse. **THIRD WRITING ASSIGNMENT DUE—Unspinning the Planned Parenthood Video**

Wednesday November 22 to Sunday November 26—Thanksgiving Holiday

Mon 27 Critical Thinking Post-test
 Wed 29 Read Gilovich Chaps. 9 and 10. Begin review for the Final Exam

December

Fri 01 **Last Class Day.** Review for Final Exam

Wed 06 9:30 am-11:30 am FINAL EXAM—150 points—COMPREHENSIVE. Roughly 75 points for Units I & II and 75 points for Unit III. BRING A SCANTRON.