

**PHIL 2303-05 (82588): CRITICAL THINKING**  
**Sam Houston State University, Spring 2019**  
**M/W/F 1-1:50 PM, CHSS 140**

**Instructor:** Dr. Thomas J. Brommage  
**Email:** brommage@shsu.edu  
**Website:** <http://brommage.freeshell.org>

**Office Hours:** M/W/F 11 – 11:50 AM & by appt.  
**Office:** CHSS 347  
**Phone:** 936-294-2460 (office)  
267-CALL-DR-B (Google Voice)

**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. No prerequisites.

**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. 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.

**Writing Enhanced:** This course satisfies the requirement for being listed as “writing enhanced” by providing you the opportunity to write as a means of demonstrating competency evaluating argument types and evidence. Feedback will be given on your written exam answers applying the material toward not only understanding what (for example) a given informal fallacy is, but expressing why it is a problem in the argument. Written work will account for 60% of the course grade—as the exams will be a mix of objective and short-answer and short-essay format.

**Schedule:** The dates and content listed are tentative and subject to change by the whim of the instructor!!

| Date           | Assignment                                | Topic                             |
|----------------|---|-----------------------------------|
| August 21st    | Introduction to Course                    | What is Critical Thinking?        |
| August 23rd    | SACS Pre-Test                             | --                                |
| August 26th    | Read Chapter 1 (pp. 3-20)                 | Nature of Inquiry                 |
| August 28th    | Ch. 1: Ex. #1, 2, 7, 10 (pp. 21-4)        | Nature of Inquiry                 |
| August 30th    | Read Chapter 2 (pp. 25-47)                | Guidelines of Inquiry             |
| September 2nd  | <b>Labor Day: No Class!</b>               | --                                |
| September 4th  | Ch. 2: Ex. #3 (pp. 49-50)                 | Guidelines of Inquiry             |
| September 6th  | TBA                                       | --                                |
| September 9th  | <b>Exam #1: Inquiry</b>                   |                                   |
| September 11th | Read Chapter 3 (pp. 55-70)                | Types of Arguments                |
| September 13th | Ch. 3: Ex. #1, 3, 5 (pp. 71-3)            | Types of Arguments                |
| September 16th | Read Chapter 4 (pp. 75-95)                | Informal Fallacies: Justification |
| September 18th | Read Chapter 4 (pp. 96-100)               | Informal Fallacies: Inference     |
| September 20th | Ch. 4: Ex. #1 (p. 101)                    | Informal Fallacies                |
| September 23rd | Ch. 4: Ex. # 4 (pp. 102-3)                | Informal Fallacies                |
| September 25th | <b>Exam #2: Arguments and Fallacies I</b> |                                   |

|                    |  |                                |
|--------------------|--|--------------------------------|
| September 27th     | Read Chapter 5 (pp. 105-126)                           | Types of Inductive Arguments   |
| September 30th     | Ch. 5: Ex. #1-2 (pp. 127-9)                            | Fallacies: Argument Types      |
| October 2nd        | Ch. 5: Ex. #3 (p. 130)                                 | Fallacies: Argument Types      |
| October 4th        | Read Chapter 6 (pp. 133-154)                           | Expertise and Authority        |
| October 7th        | Ch. 6: Ex. #1, 2 (pp. 155-6)                           | Expertise and Authority        |
| October 9th        | TBA  | --                             |
| October 11th       | <b>Exam #3: Arguments and Fallacies II</b>             | --                             |
| October 14th       | Read Chapter 7 (167-179)                               | Types of Judgments (redux)     |
| October 16th       | Ch. 7: Ex. #3, 7 (pp. 182)                             | Language Games                 |
| October 18th       | Analyzing Rhetoric                                     | Language Games                 |
| October 21st       | Joint and Conditional Probabilities lecture            | Probability                    |
| October 23rd       | Joint and Conditional Probabilities exercise (handout) | Probability                    |
| October 25th       | TBA  | --                             |
| October 28th       | Read Chapter 12 (pp. 293-327)                          | Inquiry into Natural Science   |
| October 30th       | Ch. 12: Ex #2, 4 (pp. 328-330)                         | Inquiry into Natural Science   |
| November 1st       | TBA  | --                             |
| November 4th       | Read Chapter 13 (pp. 335-366)                          | Inquiry into Social Science    |
| November 6th       | Ch. 13: Ex. #1, 2 (p. 367)                             | Inquiry into Social Science    |
| November 8th       | TBA  | --                             |
| November 11th      | <b>Exam #4: Inquiry in Science</b>                     | --                             |
| November 13th      | Read Chapter 14 (pp. 371-403)                          | Inquiry into Art               |
| November 15th      | TBA  | --                             |
| November 18th      | Read Chapter 15 (p. 409-427)                           | Inquiry into Ethics            |
| November 20th      | Ch. 15. Ex. #1, 2, 4 (pp. 428-9)                       | --                             |
| November 22nd      | Read Chapter 16 (pp. 431-463)                          | Conspiracy Theories/Paranormal |
| November 25th      | Ch. 16: Ex #1, 6 (pp. 464-466)                         | Conspiracy Theories/Paranormal |
| November 27th-29th | Thanksgiving Holiday: No Class!                        | --                             |
| December 2nd       | <b>Exam #5: Inquiry into Values</b>                    | --                             |
| December 4th       | TBA  | --                             |
| December 6th       | Review for Final                                       | --                             |
| December 11th      | <b>Exam #6: Final Exam (2:30-4:30 PM)</b>              | --                             |

**Evaluation:** There will be six exams throughout the course. The exams (except for the cumulative final) will be given during the regular class period, and there will be NO “make-up” opportunities on the exams. The best five will be used to calculate your final grade. In addition to the exams, your attendance will be also included in your final grade (details on how that grade is calculated are listed below).

The following weighting will be used to calculate your grade:

|                         |     |
|-------------------------|-----|
| Exams (best 5 out of 6) | 75% |
| Attendance              | 15% |
| Participation           | 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.

**Attendance and Participation:** An attendance sheet will be distributed most class days. It is your responsibility to sign-in on the official roll sheet, otherwise you will be considered absent. Your attendance will be judged as a percentage of the number of days that you attend class. Everyone will have three (3) absences that will not count against his or her grade (should you not use these two “freebies,” your grade will be adjusted up accordingly). For example, if I take attendance 22 times in the semester, and you have attended 17 of those meetings, your attendance grade would be a 91% (20/22).

Your participation grade will be a qualitative measure based on your effective in-class participation. For this measure, “effective” participation is a function of the quality—not the quantity—of your participation. In most cases, your participation grade will be no higher than your attendance grade (since, of course, if you're not there you can't participate).

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Please be aware that plagiarized work and any form of academic dishonesty will result in an “F” on the assignment. [SHSU Academic Policy Statement 810213](#) outlines the definition of academic honesty and the related disciplinary procedures.

You should also familiarize yourself of [Academic Policy Statement 900823](#), which outlines the procedures for students to file an academic grievance should you wish to appeal your grade for reasons other than academic dishonesty. Please read over these policies.

**Classroom Conduct:** Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cell phones must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

**Course Evaluations:** In accordance with University policy every student will have an opportunity at a specified date and time near the end of the semester to complete a course evaluation form from the IDEA course evaluation system.

For University policies on **Student Absences on Religious Holy Days, Students with Disabilities, and Visitors in the Classroom** you may view to the official statements on the SHSU Website, <http://www.shsu.edu/syllabus/>

### **Expectations, Suggestions and Mandates for an efficient class:**

1. Please arrive to class on time and expect to stay the entire duration of the class. If this is an impossibility, please make every attempt to notify me in advance of tardiness or absence.
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.
3. Expect to have up to five 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 attend class or keep up with the reading and exercises, do not expect to pass this class!
4. Please come to class prepared (i.e., any reading assigned read, any questions concerning exercises or lectures prepared, etc.)
5. 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.
6. Due to the great excess of material and limited time in which we must cover ground, please do not create a disruption for those people who are attempting to learn. Disruptions include blurting out answers, name calling, chiding each other, snoring, etc. Laughing at the Instructor's jokes is obviously exempted from this policy. In addition, personal audio devices (except those in use to record lectures) and loud crunching snack foods are prohibited from the classroom.
7. Please feel free to make mistakes. We all will from time to time, even your omniscient instructor.
8. 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.
9. Have fun! The material is only as dry as you make it out to be. Sharpening one's mind can be an exhilarating process.