

Revised in Response to Hurricane Harvey  
The attendance policy and the schedule of assignments have changed.

**Fall 2017 — PHL 2303 — Critical Thinking**  
**3 Credit Hours**

Class Meetings	Professor	Professor Office and Hours	Psych & Phil Dept.
Tues. & Thurs. 9:30-10:50	Glenn M. Sanford Email: sanford@shsu.edu	Tues. & Thurs. 11:00-12:00 and by appointment	390 CHSS Bldg.
CHSS 090	Phone: (936) 294-1510 Fax: (936) 294-3978	290H CHSS Bldg.	Phone: (936) 294-1174 Fax: (936) 294-3978

Graduate Assistant	Office and Hours
Krista Chapman Email: kxc060@SHSU.EDU	CHSS 396 Monday 1:00-2:30 Thurs. 1:30-3:00

**Catalog Description:** PHL 2303 CRITICAL THINKING [PHIL 2303]. 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.

**Required Texts:**

Lewis Vaughn, The Power of Critical Thinking: Effective Reasoning About Ordinary and Extraordinary Claims, Fifth Edition, ISBN: 978-0-19-9938542-3, Oxford University Press

Additional web-based readings will be supplied to supplement the text. These readings will be available at no charge to the students.

**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 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.

**Course Format:** This course will be primarily taught in a lecture format. Students are encouraged to ask questions during the lecture.

**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) 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 as 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 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.

**Attendance Policy:** Attendance will be taken using sign-in sheets. **If you fail to sign the attendance sheet you are considered absent.** In all cases, it is your responsibility to ensure that you sign the attendance sheet before leaving class. It is a violation of SHSU's policy on academic dishonesty for any student to sign in for another student. All students are expected to attend the entirety of each class meeting.

**Attendance records will be NOT used in determining your grade:** In light of Hurricane Harvey and the potential that a large number of students may need to deal with its aftermath, I will take attendance every class period as part of the university's documentation requirements, but these records will not affect your grade.

**There are no make-up exams in this course:** 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. If a student misses an exam, a grade of zero (0) will be entered for that exam. Rather than having make-up exams, **grades will be calculated using students' four highest exam grades.**

Use this link to see general SHSU syllabus policies: <http://www.shsu.edu/syllabus/>.

**STUDENT ABSENCES ON RELIGIOUS HOLY DAYS:**

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

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 religious holy days as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20, Tax Code...."

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.

**The attendance policy and the schedule of assignments have changed.**

University policy 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 notify the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

**Assignments:** There will be a reading assignment for most class days. These appear at the end of the syllabus. While I do not expect to deviate from the schedule provided herein, I reserve the right to alter the schedule should the need arise. If this occurs, students will be notified as soon as practicable. **Students are responsible for reading assignments BEFORE class.**

**Exams:** There will be five exams (including the final). Each exam will be graded on a 100-point scale. Exams will use some combination of multiple choice, matching, and true/false questions in a Scantron format. The questions will reflect the content and skills covered in our readings and classroom discussion. Students are responsible for all materials covered in class, even if the materials are not in the textbook and do not appear on the class handouts.

Students will be graded on their ability to correctly recognize and evaluate the arguments of the authors we read. This will be accomplished by asking students to choose the BEST answer from the available options. For students who arrive late to an exam, you will only be permitted to take the exam until the first student leaves the exam room. In other words, **once the first student who has seen the exam leaves the room, no late-arriving student will be permitted to take the exam.** In all cases where a student arrives after a student who has seen the exam leaves the room, the late-arriving student will be considered absent from the exam and will receive a grade of zero (0) for that exam. This policy will be strictly enforced and no excuses will be accepted. **Rather than having make-up exams, grades will be calculated using students' four highest exam grades.**

**Grading Plan:** Your course grade will be determined by averaging your four highest exam grades. Grades for this course will be determined based upon your percentage of total points on the following scale: 90-100% = A, 80-89.9% = B, 70-79.9% = C, 60-69.9% = D, below 60% = F. The points scale will be 360-400 = A, 320-359.9 = B, 280-319.9 = C, 240-279.9 = D, and 0-239.9 = F. I do not "round" grades.

**Study Tips:** All students are encouraged to attend every scheduled class meeting. In addition, because this class focuses on developing critical thinking skills, students are encouraged to attempt the exercises offered in the Power of Critical Thinking textbook. Often, working together in groups to practice the skills presented is an effective strategy. Students are encouraged to make use of the SAM Center, the Reading Center, and the Writing Center.

### **University Policy Reminders**

University policies covering Students with Disabilities, Academic Dishonesty, Classroom Rules of Conducting, Visitors in the Classroom, Course Evaluations, Q-drops, and Cell Phones

#### **(1) NOTICE TO PERSONS WITH A DISABILITY:**

<http://www.shsu.edu/dotAsset/9edd8433-cad5-40d1-b4bf-6a91b08f90e4.pdf>

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. 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 are expected to visit with the Office of Services for Students with Disabilities. 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.

If the student has a disability that may affect his/her work in this class, then he/she needs to register with the SHSU Office of Services for Students with Disabilities (Lee Drain Building North Annex, telephone 936-294-3512, TDD 936-294-3786) to request accommodations. Detailed contact information is available at: <http://www.shsu.edu/dept/disability/contact-us.html>.

NOTE: no accommodation can be made until the student registers with the Office of Services for Students with Disabilities.

(2) ACADEMIC DISHONESTY:

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

In accordance with the University's Academic Policy Statement 810213, 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.

(3) CLASSROOM RULES OF CONDUCT:

<http://www.shsu.edu/dotAsset/9718a9e1-4a6c-4f39-9fe6-3d6864c8b7b0.pdf>

Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students therefore must refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular phones, pagers, and music players (for example, iPod-type devices) must be turned off and earphones removed before class begins. Students are prohibited from using tobacco products, making offensive remarks, reading newspapers, talking at inappropriate times, 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.

(4) VISITORS IN THE CLASSROOM:

Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not he/she will be allowed to remain.

(5) 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.

(6) 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. Students who have used their limit of five Q-drops will need to petition their respective dean to drop a class. If the dean refuses to grant permission to drop a class, a student will be required to remain in the class. This limit took effect with the start of the fall 2004 semester. Any drops accumulated prior to the fall 2004 semester will not be included in the five Q-drop limit, nor will Q-drops from other universities.

(8) USE OF CELL PHONES AND PAGERS IN ACADEMIC CLASSROOMS AND FACILITIES

Telephones and pagers or similar devices have become increasingly a part of everyday life. In the academic classroom, however, during class these devices can be a serious distraction and during tests they can be a serious problem. The technology is constantly changing and evolving. So, the present policy does not specify particular devices or device types. Rather, the policy applies to any device that performs the function of a telephone or pager.

The use by students of telephone and pagers or any device that performs these functions during class-time is prohibited unless specifically permitted by the instructor. All such devices should be turned off or put in a silent or vibrate mode and should not be visible during class. At no time should students answer a call or page during class or leave the classroom to answer a call or page. Failure to comply with this policy could result in expulsion from the classroom or with three or more offenses, failure of the course. Any use of a telephone or pager or any device that performs these functions during a test period is prohibited. These devices should not be present during a test or should be stored securely in such a way that they cannot be seen or used by the student. Even the visible presence of such a device during the test period will result in a zero for that test. Use of these devices during a test is considered de facto evidence of impermissible collaboration and could result in a charge of academic dishonesty (see student code of conduct <http://www.shsu.edu/dotAsset/9718a9e1-4a6c-4f39-9fe6-3d6864c8b7b0.pdf>). If there is an emergency situation for a student, that student should inform the instructor and place himself/herself in a seat near the door where an exit for a phone call would be only minimally disruptive. Other arrangements for handling potential emergency situations may be granted at the discretion of the instructor.

**Course Outline:** The schedule of assignments has been adjusted in response to SHSU's closure.

Date	Complete before coming to class:	Covered in class:
August 24		Go over syllabus Discuss semester expectations Take pre-test to gather course assessment data for semester: results will have no effect on student grades
September 5	Read Ch. 1 <b>Complete:</b> Exercises 1.2, 1.3, 1.4	Introduction to the course and basic concepts of critical thinking
September 7	Read Ch. 2 <b>Complete:</b> Exercises 2.2, 2.3, 2.5 Integrative exercises 5-12, 16-20 for practice identifying common errors in reasoning and evidence	Obstacles to critical thinking, and impediments to objectivity.
<b>September 12</b>	Read Ch. 3 <b>Complete:</b> Exercises 3.2, 3.4 (section 1), 3.5 Integrative exercises 1 - 20 for practice moving from natural language arguments to formal evaluation and actual evaluation of arguments	Argument types, formal evaluation and natural language arguments
September 14	<b>Review for Exam 1</b>	CH. 1, 2, 3 and all material covered in class from the start of the semester.
September 19	<b>Exam 1: Bring a #2 pencil and a full sized scantron to exam.</b>	
September 21	Read Ch. 6	Truth tables as a means of evaluating the validity of deductive arguments
September 26	<b>Complete:</b> Exercises 6.1, 6.2, 6.3 (odd numbered problems)	Additional work on the truth table method of determining validity
September 28	Read Ch. 7	Venn diagrams as a means of evaluating categorical arguments. <b>Note:</b> we will use a method in-class of completing Venn diagrams that differs slightly from that provided in text
October 3	<b>Complete:</b> Exercises 7.2, 7.3, 7.5	Further work on Venn diagram method for evaluating categorical arguments.
October 5	<b>Complete:</b> Exercises 6.8, 6.9	Truth tables
<b>October 10</b>	<b>Complete:</b> Exercises 7.7, 7.8	Venn diagram
October 12	<b>Review for Exam 2</b>	CH. 6, 7 and all material covered in class starting after the first exam.
October 17	<b>Exam 2: Bring a #2 pencil and a full sized scantron to exam.</b>	
October 19	Read Ch. 5 <b>Complete:</b> Exercises 5.2, 5.3	A range of logical fallacies

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Date	Complete before coming to class:	Covered in class:
October 24	No readings.	Additional logical fallacies. <b>Note:</b> We will be covering a range of logical fallacies that are not in the textbook. We will be completing exercises from the book and working through strategies for identifying fallacy patterns.
October 26	<b>Complete:</b> Fallacies practice quiz on blackboard: for practice, not graded.	Additional logical fallacies
October 31	<b>Review for Exam 3</b>	Ch. 5 and all material covered in class starting after the second exam.
<b>November 2</b>	<b>Exam 3: Bring a #2 pencil and a full sized scantron to exam.</b>	
November 7	No readings	Correlation and causation lecture
November 9	No readings	Use of probabilities in decision-making process lecture
November 14	<b>Complete:</b> Probability exercises that are posted on Blackboard: for practice, not graded.	Calculating the likelihood of probabilistic events
November 16	<b>Review for Exam 4:</b>	All material covered in class starting after the third exam, particularly probabilities
November 21	<b>Exam 4: Bring a #2 pencil and a full sized scantron to exam.</b>	
November 28	No assignments due.	Take post-test for course assessment: results will have no effect on final grade. Pass out grade slips: will contain grade and attendance information through exam 4. Slips will show students where their grade stands heading into final exam.
November 30	<b>Review for final exam:</b>	Cumulative: Ch. 1, 2, 3, 5, 6, 7, 8 and all material covered in class from the start of the semester.
December 7 9:30 am – 11:30 am	<b>Final exam: Bring a #2 pencil and a full sized scantron to exam.</b> <a href="https://www.shsu.edu/dept/registrar/calendars/final-exam-schedules.html">https://www.shsu.edu/dept/registrar/calendars/final-exam-schedules.html</a>	