INTRODUCTION TO LOGIC AND CRITICAL THINKING

TR 11:00 – 12:15
CCH-262

http://philosophy.tamucc.edu

Professor:

Don Berkich, Ph.D.

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Hours: TBD
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Course Description:

This is a first course in that most fundamental of all disciplines, logic. It is fundamental because it is the careful study of arguments and every discipline, whether it be History, Mathematics, Psychology, Biology, or what have you, depends on argument. So unlike any other course, in this course we will not be concerned with using arguments. Rather, we will take arguments themselves to be our subject. As we develop a special vocabulary to use in talking about arguments, we will study tools for distinguishing good arguments from bad. Make no mistake: Mastering these tools will take hard work, but your ability to use them will set you well ahead of your peers in nearly any academic or career endeavor. Indeed, so much is at stake that it is no exaggeration to say that this course more than any other deserves your best effort.

Tentative Topic Schedule:

Week 1 The Language of Arguments
Week 2 Tools for Close Analysis
Week 3 Propositional Calculus/Boolean Algebra
Week 4 Truth Tables, Analytic Tableaux, and Proof Theory
Week 5 Quantification Theory
Week 6 Categorical Syllogism and Venn Diagrams
Week 7 Predicate Calculus
Week 8 Analytic Tableaux and Proof Theory
Week 9 Induction and the Probability Calculus
Week 10 Tools for Deep Analysis
Week 11    Deep Analysis of Informal Arguments
Week 12    Mill's Methods for Experimental Inquiry
Week 13    Scientific Analysis
Week 14    Conclusion

Texts: (recommended, but not required)

Copi, Cohen, and McMahon, Introduction to Logic, 14th ed. (Pearson, 2010)

Student Learning Outcomes:

In this class, students will be expected to:

1) demonstrate an ability to understand and represent the structure of arguments;

2) evaluate both deductive and inductive reasoning;

3) construct and revise arguments.

Requirements:

Problem Sets:

Problem sets will be assigned and due approximately every week. All but the student's ten best scoring problem sets will be dropped.

Midterm Examination:

There will be an in-class midterm examination Wednesday, March 10. Structure and content to be announced.

Final Examination:

There will be an in-class final examination at the scheduled time. Structure and content to be announced.

Portfolio:

Due the same day as the final examination, the student is responsible for submitting a comprehensive portfolio of all their work during the semester, including lecture notes, corrected problem sets, a corrected midterm examination, and topic summaries.

Participation:

Students should be prepared to contribute to class discussion, solve problems with the class, and be actively engaged in helping others solve problems.

Attendance:

Attendance is not mandatory, but it is strongly recommended. See below.

Policies:

The professor assumes that students enrolled in this course are sincere student-scholars. That is, the professor will treat them with the respect due scholars, and, as scholars, they shall do their best to live up to the standards of scholars. To wit,
Preparation:

Scholars carefully read assignments in advance of class, take notes on their reading, explore specific issues in discussion with fellow scholars, and follow-up class by re-reading portions of the required readings and exploring suggested readings.

Participation:

Scholars are eager to respectfully, openly, and critically discuss arguments and issues raised by the readings. Scholars are adept at following a line of reasoning wherever it may lead. Most importantly, scholars welcome the insights and criticisms of their peers: A scholar understands that it is possible to entertain a proposition without believing it, just as it is possible to present an argument without personally endorsing the argument. Scholars enjoy vigorous deliberations and are always careful to treat fellow scholars with patience and good humor.

Assignments:

Scholars fully immerse themselves in assignments and never assume that an assignment is only legitimate if it will be covered on a test. Scholars are naturally curious and see every assignment as an opportunity to explore new issues, see old issues in new light, and hone their growing skills.

Cheating:

Scholars are very careful to give proper credit and maintain the highest standards of scholarly conduct. Thus, subject to university guidelines, any instance of cheating (including plagiarism) will be vigorously prosecuted.

Attendance:

Scholars always attend class barring serious injury, illness, or disaster. Scholars view class-time as rare and valuable for the thought it evokes and the opportunities it presents. Scholars arrive early for class and never leave class early without obtaining prior approval from the professor. Scholars who miss class are responsible for obtaining class-notes, doing the readings, and fully answering any exam questions derived from class discussion. Make-up reading quizzes will be provided upon request, although the question asked may not be the question chosen in class.

Grading Formula:

There are 1000 points possible as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Sets</td>
<td>scaled to 50 points each</td>
</tr>
<tr>
<td>Midterm Examination</td>
<td>100 points</td>
</tr>
<tr>
<td>Final Examination</td>
<td>200 points</td>
</tr>
<tr>
<td>Portfolio</td>
<td>200 points</td>
</tr>
</tbody>
</table>

Total Points =

sum of the best ten problem sets + midterm examination + final examination + portfolio
Course Grade is determined by the following scale:

- **A** 900 - 1000
- **B** 800 - 899
- **C** 700 - 799
- **D** 600 - 699
- **F** 000 - 599

**Additional Notes:**

Any change in the above will be announced in class. No change will be made which would be detrimental to the student's grade.

This syllabus is not authoritative. That is, the syllabus on the course website supersedes this syllabus wherever they differ. The professor and the students are only responsible for the syllabus as it appears in its entirety on the website, including the schedule of topics and readings.

Any student missing a due date must provide a documented, acceptable reason according to university guidelines. Students with a proper excuse for missing a due date will be given a reasonable extension.

Students without a proper excuse for missing a due date will lose 20 points per day after the due date.

**Required University Note to Students with Disabilities:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall, Room #116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

**Required College of Liberal Arts Note on Academic Advising:** The College of Liberal Arts requires that students meet with an Academic Advisor as soon as they are ready to declare a major. Degree plans are prepared in the CLA Academic Advising Center. The University uses an online Degree Audit system. Any amendment must be approved by the Department Chair and the Office of the Dean. All courses and requirements specified in the final degree plan audit must be completed before a degree will be granted. The CLA Academic Advising Office is located in Driftwood #203. For more information please call 361-825-3466.

**Required College of Liberal Arts Note on the Grade Appeal Process:** Students who feel that they have not been held to appropriate academic standards as outlined in this class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details on the process of submitting a formal grade appeal, please visit...
the College of Liberal Arts website, cla.tamucc.edu/students/studentinfo.html. For assistance and/or guidance in the grade appeal process, students may contact the Associate Dean’s Office.

By accepting this syllabus the student indicates that the syllabus has been read, all requirements are understood, and all policies are acknowledged.