**PHIL2310 - LOGIC**
001 - MWF 10:00-10:50, Eng/Phil 160

**Instructor**
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**Course Description**
A central aspect of reasoning is the ability to properly infer conclusions from premises. In this course, we will investigate the logical form of sentences and the deductive relations that hold between them, thus giving us deeper insight into the notion of inference. The course will present three logical systems, each in increasing expressive power: sentential logic, monadic quantificational logic, and polyadic quantificational logic. For each system, we will closely examine the syntax of the language, its relation to English, and its general semantic properties.

**Core Text**
- Warren Goldfarb, *Deductive Logic* (2003: Hackett; ISBN: 978-0872206601)

**Expected Learning Outcomes**
(1) Acquisition of effective, critical thinking skills.
(2) Understanding of basic formal mechanisms of first-order logic.
(3) Ability to demonstrate (1-2) in clear, concise problem-solving.

**Course Requirements**
Your final grade will depend on the percentage you earn of the total points possible in the class: A+: 97-100; A: 94-96; A-: 90-93; B+: 87-89; B: 84-86; B-: 80-83; C+: 77-79; C: 74-76; C-: 70-73; D+: 67-69; D: 64-66; D-: 60-63.

| | |
|---|---|
| Attendance & Participation | 10% |
| Homework Assignments | 30% (6 @ 5% ea.) |
| Examinations | 60% (4@15% ea.) |

- ***Attendance & Participation*** **(10% of total grade)**
  Attendance and participation together comprise 10% of your final grade. You are expected to come to class each day having carefully read the assigned material. There is less reading in this class than for most other courses, but the reading is *extremely* dense, and will usually require re-reading to ensure comprehension. You should expect to re-read the material after the lecture.

  This course involves learning what will be for many an entirely new skill set involving many new terms, rules, and concepts. Mastering these requires constant practice, both in class and on your own.

  Class attendance is mandatory for the simple reason that each class builds on the class before, such that missing even a single class can have an enormous impact on being able to follow the course material and complete assignments.

Attendance will be taken every class. For each class you miss without authorized excuse, one point will be deduced from your final grade. Five or more unexcused absences is grounds for an "F" in the course.

- ***Homework*** **(30% of total grade)**
  There will be a total of EIGHT homework assignments throughout the course of the term, as outlined in the Course Schedule, below. Each assignment will be handed out following a "Logic Lab" (a single class devoted to in-class problem solving), and is due the following class.

  Each homework assignment is worth 5% of your final grade, with the lowest two scores dropped. Homework must be handed in as a hard-copy (no e-mailing, etc.). Late assignments will not be accepted without a university-approved and documented excuse.

- ***Examinations*** **(60% of total grade)**
  There are four examinations for this class, each worth 15% of your final grade. More detail about the exams will be made available as we get closer to them (dates specified under "Course Schedule" below).

**Special Accommodations**

- Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.
- You will not be penalized for any absences due to religious observances. However, it is your responsibility to inform me in advance of any intended absences for religious observance *as soon as possible* so that we can make other arrangements. As well, it remains your responsibility to have read the material assigned for that day and to obtain any notes from one of your classmates for classes missed.

**Classroom Courtesy**

Please be courteous to your fellow students and avoid unnecessary disruptions. Arrive on time, leave on time, and *turn off your cell phone during class*. Note that if your cell phone rings during class, *I will answer it*. Laptops are permitted in class, but please do not abuse this privilege. Text-messaging is *not* permitted during my class. If I see you text-messaging during class-time, your participation grade will be deducted 1 point. This is your only warning.

**Academic Integrity and Irresponsibility**

I take incidents of academic misconduct *very seriously*. These include but are not restricted to cheating, plagiarism, collusion, and fabrication. Penalties are dependent on the nature of the misconduct, and may involve disciplinary proceedings with the Student Judicial Programs. Knowing what constitutes academic misconduct is *your responsibility*. If you have a concern about what constitutes academic dishonesty *prior to turning in an assignment*, please see me, and I will be happy to help you. For more information, see http://www.depts.ttu.edu/studentjudicialprograms/academicinteg.php.

**Course Schedule**

| Topic | Date | Readings | Homework |
|---|---|---|---|
| *Introduction* | Fri, Aug 27 | *No readings* | |
| *Sentential Logic* | Mon, Aug 30 | Goldfarb, 1-18 | |
| | Wed, Sep 1 | Goldfarb, 19-28 | |
| | Fri, Sept 3 | *Logic Lab* | Homework #1 Assigned |
| | Mon, Sept 6 | *No class* | |
| | Wed, Sept 8 | Goldfarb, 28-35 | Homework #1 Due |
| | Fri, Sept 10 | *Logic Lab* | Homework #2 Assigned |
| | Mon, Sept 13 | Goldfarb, 37-47 | Homework #2 Due |
| | Wed, Sept 15 | Goldfarb, 47-53 | |
| | Fri, Sept 17 | *Logic Lab* | Homework #3 Assigned |
| | Mon, Sept 20 | Goldfarb, 53-59 | Homework #3 Due |
| | Wed, Sept 22 | Goldfarb, 61-67 | |
| | Fri, Sept 24 | *Logic Lab* | |
| | Mon, Sep 27 | *Exam #1* | |
| *Monadic Quantificational* | Wed, Sept 29 | Goldfarb, 91-121 | |
| | Fri, Oct 1 | *Logic Lab* | Homework #4 Assigned |
| | Mon, Oct 4 | Goldfarb, 123-138 | Homework #4 Due |
| | Wed, Oct 6 | Goldfarb, 123-138 (cont'd) | |
| | Fri, Oct 8 | *Logic Lab* | Homework #5 Assigned |
| | Mon, Oct 11 | *No class* | |
| | Wed, Oct 13 | Goldfarb, 139-146 | Homework #5 Due |
| | Fri, Oct 15 | *Logic Lab* | |
| | Mon, Oct 18 | *Exam #2* | |
| *Polyadic Quantificational* | Wed, Oct 20 | Goldfarb, 149-156 | |
| | Fri, Oct 22 | Goldfarb, 157-165 | |
| | Mon, Oct 25 | *Logic Lab* | Homework #6 Assigned |
| | Wed, Oct 27 | *No class* | |
| | Fri, Oct 29 | *No class* | |
| | Mon, Nov 1 | Goldfarb, 167-180 | Homework #6 Due |
| | Wed, Nov 3 | Goldfarb, 167-180, *cont'd* | |
| | Fri, Nov 5 | *Logic Lab* | Homework #7 Assigned |
| | Mon, Nov 8 | Goldfarb, 181-198 | Homework #7 Due |
| | Wed, Nov 10 | Goldfarb, 181-198, *cont'd* | |
| | Fri, Nov 12 | *Logic Lab* | |
| | Mon, Nov 15 | *Exam #3* | |
| *Natural Deduction* | Wed, Nov 17 | *Reading TBD* | |
| | Fri, Nov 19 | *Reading TBD* | |
| | Mon, Nov 22 | *Logic Lab* | Homework #8 Assigned |
| | Wed, Nov 24 | *No class* | |
| | Fri, Nov 26 | *No class* | |
| | Mon, Nov 29 | *Reading TBD* | Homework #8 Due |
| | Wed, Dec 1 | *Reading TBD* | |
| | Fri, Dec 3 | *Logic Lab* | |
| | Mon, Dec 6 | *Exam Review* | |
| | Wed, Dec 8 | *Exam #4* | |