Formal Logic I

Course number: PHI 2101, Section 0001
Meeting Times and Location: T/TH 12:00-1:15
Location: ENGR1, Room 427

Instructor: William Butchard, Ph.D.  
Email: Please message me in Webcourses  
Office: PSY 228  
Office hours: Wednesdays 1:00-3:00

Course Description

This course is an introduction to formal logic. The word ‘formal’ contrasts with ‘informal’. Informal logic is the study of arguments as they occur in natural languages, such as English. Formal logic, on the other hand, constructs a precise artificial language and translates natural language arguments into that language so as to represent their structure more clearly than it is presented in natural language. Key argumentative notions such as the validity of an argument are defined in terms of syntax (i.e., in terms of the rules for combing symbols, as opposed to the semantics, i.e., the facts related to the meaning of the symbols). Formal logic thus abstracts away from the actual content of arguments and analyzes them in terms of their form or structure. Formal logic, though it doesn’t capture all there is to good reasoning, supplies a precise, illuminating model of an important aspect of good reasoning as it occurs in natural language, namely, its formal structure.

Required Text and Course Materials

2. Six raspberry scantron sheets

Assignments and Grade Determination

Assignments

Exams

There will be six in-class exams. These will consist of questions requiring you to supply multiple-choice, true-false, and hand-written answers.

Homework

There will several homework assignments. I will not collect them for grading, but they are considered required nevertheless. We will go through the homework assignments in class, but I will not post the answers in Canvas people who missed class. If you don’t do your homework, you can expect to do poorly on the exams. Merely taking notes as I go through a homework assignment in class is nowhere near as effective as completing it on your own first and then going through it in class. Do Your Homework!

Grade Determination

You can earn a total of 100 percentage points in the course. Each course requirement is worth a certain number of points. The distribution of points is as follows:

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- Exams: 5 in-class exams. The exams are worth 20 points each. There is a sixth exam—it is the cumulative final and it replaces your lowest test score.
Attendance and Make-up Work

Class attendance should be viewed as a responsibility, and I consider it mandatory. Your attendance will not affect your grade directly, but if you come to class, you will get a much better handle on the course material. If you have to leave early, please let me know before class.

Missing class on a day when there is an exam is not something that can be taken lightly because of fairness and exam security. The final exam is cumulative and can count twice to replace a “0” on an exam. You should consider it very unlikely that you will be able to make up a missed exam. I can allow such make-up work only if your circumstances are truly extraordinary and you provide proper documentation in a reasonable amount of time. Excusable absences include absence due to documented medical emergencies, deaths in the family, and some university sponsored activities. Telling me that you were sick or having a roommate write a note will not count as documentation. A conflict with prior travel plans does not constitute an excuse.

Grade scale

The grade scale for the course will be as follows:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>93% to 100%</td>
<td>A</td>
</tr>
<tr>
<td>90% to 92%</td>
<td>A-</td>
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<tr>
<td>87% to 89%</td>
<td>B+</td>
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<tr>
<td>83% to 86%</td>
<td>B</td>
</tr>
<tr>
<td>80% to 82%</td>
<td>B-</td>
</tr>
<tr>
<td>77% to 79%</td>
<td>C+</td>
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<tr>
<td>73% to 76%</td>
<td>C</td>
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<tr>
<td>70 to 72%</td>
<td>C-</td>
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<tr>
<td>67% to 69%</td>
<td>D+</td>
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<tr>
<td>63% to 66%</td>
<td>D</td>
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<tr>
<td>60% to 62%</td>
<td>D</td>
</tr>
<tr>
<td>50% to 59%</td>
<td>F</td>
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</tbody>
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Participation and Classroom Etiquette

I strongly encourage you to be a full participant in class discussions. Don’t worry about getting something wrong. If something we are discussing is unclear to you, chances are a lot of other people are confused by the same thing, and your input may well help us focus in on the difficulty. Voicing your opinion, putting an idea on the table for examination, or just asking a question can be very helpful in a class discussion.

Remember that there are several other students in the course and that it is important not to distract them. Please make an effort not to interrupt class by arriving late, talking while someone else has the floor, or using your laptop for something other than taking notes. Also, please keep your cell phones off and away during lecture.

Students with Disabilities

If you have a disabling condition that may interfere with your ability to successfully complete this course, please register with Student Disability Services:

http://sds.sdes.ucf.edu/

They will provide you with the proper documentation for you to show your instructors if you request accommodations.

Important Notice for Financial Aid Recipients

As of Fall 2014, all faculty members are required to document students' academic activity at the beginning of each course. In order to document that you began this course, please complete the academic activity below by the end of the first week of classes, or as soon as possible after adding the course, but no later than August 27. Failure to do so will result in a delay in the disbursement of your financial aid.

Activity: Go to Webcourses/Canvas and find the “Syllabus Quiz” for this course and complete the quiz.
Topics

*Introductory Material*
- Arguments
- Formulas
- Validity
- Logical Form
- History and Purpose of Logic

*Syntactic Proofs*
- Formal language
- Theorems
- Conjunction
- Conditional Proof
- Biconditionals
- Negation
- Disjunction
- Reductio ad absurdum

*Formal Semantics*
- Syntax and semantics
- Truth Tables
- Truth Table Tests for Validity

*First Order Predicate Logic*
- Universal Quantifier
- Existential Quantifier
- Inter-defining the Quantifiers
- Relations