Deductive Logic (Phil. 321)  
Oregon State University

Instructor: Dr. S. Clough  
Phone: 541-737-9801  
Http://oregonstate.edu/~cloughs  
Email: Sharyn.Clough@oregonstate.edu  
Office: 102B Hovland Hall  
Office Hrs: 2-3 PM Weds. or by app’t.

Required Texts:  

For textbook accuracy, please check the textbook list at the OSU Bookstore website (http://www.osubeaverstore.com/). Syllabi may not have the most up to date textbook information!

Course Description:  
We will treat symbolic deductive logic as a language just like any other, with a new vocabulary, syntax and grammar. The process of translating English into symbolic deductive logic can help us see more clearly when a set of beliefs is internally consistent, and whether an argument supporting a claim is valid and why. The course will have special interest for those students in law, physics, mathematics, engineering, linguistics, philosophy, and computer science, but almost everyone gains something useful by learning logic.

Learning Outcomes:  
- Students who successfully complete the course will have a working familiarity with the principles and procedures of deductive logic, symbolised at the level of both sentences and predicates.  
- Students will gain familiarity with the following five concepts as expressed in symbolic logic: “logical truth,” “validity,” “soundness,” “consistency,” and “equivalence.”  
- As well, students will be able to manipulate the following five connectives in symbolic logic: “and,” “or,” “if,” “not,” and, finally, “if and only if.”

Course Requirements:  
- 6 Quizzes, 15% ea., you can drop your lowest score from Quizzes #1-5, although there is not a scheduled final exam, you must count your score for Quiz #6. It is a short, but cumulative quiz. Total points for all 5 quizzes that count: 75.  
- 5 Homework assignments worth 5 points, ea. Total points: 25.
• If you miss a quiz or homework then you will need a very good excuse, i.e., your absence must have been beyond your control (e.g., acts of god, or children’s dental emergencies). Otherwise you’ll get a zero on that quiz or assignment.

• These requirements add up to a score out of 100 which will be translated to a letter grade near the end of the quarter. One possible translation scheme, provided as a guideline only, is as follows:


<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 – 91</td>
</tr>
<tr>
<td>B</td>
<td>84 – 82</td>
</tr>
<tr>
<td>C</td>
<td>75 – 73</td>
</tr>
<tr>
<td>D</td>
<td>66 – 64</td>
</tr>
<tr>
<td>A-</td>
<td>90 – 88</td>
</tr>
<tr>
<td>B-</td>
<td>81 – 79</td>
</tr>
<tr>
<td>C-</td>
<td>72 – 70</td>
</tr>
<tr>
<td>D-</td>
<td>63 – 61</td>
</tr>
<tr>
<td>B+</td>
<td>87 – 85</td>
</tr>
<tr>
<td>C+</td>
<td>78 – 76</td>
</tr>
<tr>
<td>D+</td>
<td>69 – 67</td>
</tr>
<tr>
<td>F</td>
<td>60 – 0</td>
</tr>
</tbody>
</table>

Class Schedule:

• This schedule is subject to change; you are responsible for finding about any changes.

• As a rule, I check email between 10AM and 5PM Mon-Fri., so keep this in mind when trying to contact me.

Week One:  *Course Outline, begin Ch. 1 (1.2 Why study logic? 1.3 Sentences, truth values & arguments); No homework due.

*Discuss Ch. 1 (1.1 background, 1.6 Logical consistency, truth, falsity, & equivalence, 1.4 Deductive validity and soundness, 1.7 Special cases of validity); No homework due.

Week Two:  *Homework due: p. 26, 1 a-g; Review for quiz #1.

*Quiz #1 (on sections 1.1, 1.3, 1.4, 1.5, 1.6, 1.7, glossary).

Week Three: *Discuss Ch. 2 (2.1 Symbolization: Conjunctions, disjunctions, negations); No homework.  
*Ch. 2 (2.4 Syntax; 2.1 Symbolization: Combinations); Homework due: pp. 48-49 1.a,b,c,d,f and 2.a,b,c,f; Review for quiz #2.

Week Four:  *Quiz #2 (on section 2.1 up to pg. 42, plus 2.4); No homework due.

*Ch. 2 (2.1 Symbolization: Conditional, and variants - only if, unless; Biconditional).

Week Five: *Practice Quiz #3 (sec. 2.1, pp. 43-48); Homework due: pp.49-50, 5a-t.

*Quiz #3 (section 2.1, pp. 43-48); No homework due.

Week Six:  *Ch. 3 (3.1 Truth-value assignments, 3.2 Truth-functional truth, falsity, & indeterminacy, 3.3 Truth-functional equivalence, 3.4 Truth-functional consistency).

*Ch. 3 (3.5 Truth functional entailment, and truth-functional validity); No Homework due.

Week Seven: *Practice Quiz #4 (sections 3.1-3.5); Homework due: pp. 107-08, 1a–j.

*Quiz #4 (on sections 3.1-3.5); No homework due.

Week Eight: *Ch. 5 (5.1 The derivation system: conjunctions, conditionals; No homework due. Homework due: Ex.1, pp. 168-169

*Ch. 5 (5.1 Sentential derivations: negations, disjunctions, biconditionals).

Week Nine: *Ch. 5 (5.2 Applying the derivation rules). Homework due: Exercises p. 175, Ex. 5.1.2. and p. 179-180, Ex. 5.1.4; Practice Quiz #5.

*Quiz #5 (on sections 5.1-5.2); No homework due.
Week Ten: *Ch. 7 (7.1 The limitations of SL; 7.2 Predicates, individual constants, 7.3 Introduction to PL, 7.4 Quantifiers introduced); Homework due: read section 7.2. Take-home Practice Quiz #6 (sections 7.1-7.4); answers posted on-line. *Quiz #6 (on sections 7.1-7.4).

Plagiarism
You are expected to submit your own work in all your assignments, postings to the discussion board, and other communications, and to clearly give credit to the work of others when you use it. Academic dishonesty will result in a grade of “F.” Link to Statement of Expectations for Student Conduct: http://oregonstate.edu/admin/stucon/achon.htm.

Students with Disabilities
Accommodations are collaborative efforts between students, faculty and Disability and Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Course Evaluation
We encourage you to engage in the course evaluation process each term – online, of course. The evaluation form will be available toward the end of each term, and you will be sent instructions by Ecampus. You will login to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.