PHIL 204: Introduction to Symbolic Logic  
Stoner/Fall 2012  

Wednesdays, 1:00 - 4:20, Founders Hall L118

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Course Description

Sentential logic is a symbolic system that helps us analyze the structure of arguments. This course will focus on proofs in sentential logic; that is, we will focus on methods for demonstrating that the conclusion of an argument follows from a set of premises. In addition to being useful for analyzing arguments in the real world, the analytical abilities you'll develop while studying logic will support further work in a broad range of disciplines that require clear, careful, step-by-step thinking.

Required Texts

*The Logic Book* by Bergmann, Moor and Nelson, 5th edition.  
Book Website (with solution manuals): [http://mhhe.com/bergmann5e](http://mhhe.com/bergmann5e)

Course Requirements

Homework: 200 points (from your 10 best scores out of 11 assignments)  
Quizzes: 200 points (from your 10 best scores out of 11 quizzes)  
Midterm: 200 points  
Final: 300 points  
Participation: 100 points

**Homework:** Most weeks you will turn in a homework assignment at the beginning of class. These assignments may not be made up, and may not be turned in late. Each week I will choose two problems from the assigned set to grade. Your homework score for the semester will be the sum of your ten best scores out of eleven total assignments.

**Quizzes:** Most class meetings will begin with a brief review and a quiz covering the previous week's content. Quizzes may not be made up, or taken late. Your quiz score for the semester will be the sum of your ten best scores out of eleven total quizzes.

**Exams:** Two exams—a midterm and a final—constitute the biggest portion of your final grade. They will include a variety of questions, including true/false, multiple-choice, symbolization/translation, and proofs. Be sure to contact me ahead of time if you need alternative arrangements, or if you must miss an exam day. If you do not contact me ahead of time, exams can be made up, at a penalty of one letter-grade per day late.

**Participation:** Your active participation is important, both for your own success and for the success of the course. Don't hesitate to ask questions if you are confused. (If you're confused, it's all but certain that other people are, too.) Don't hesitate to help me answer the questions other students have. In small groups, be helpful when you can, and ask for help when you need it.
Grade Table

At the end of the semester, I will total up all your points and assign letter grades based on this table. These thresholds indicate firm cut-off points. For example, a total score of 864 points will be marked B, while a total score of 865 will be marked B+.

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<thead>
<tr>
<th>Letter Grade</th>
<th>Point threshold</th>
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<tbody>
<tr>
<td>A</td>
<td>935</td>
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<tr>
<td>A-</td>
<td>900</td>
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<tr>
<td>B+</td>
<td>865</td>
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<td>C</td>
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<td>C-</td>
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<td>D</td>
<td>600</td>
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<td>F</td>
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Course Calendar

Note: “(H/Q)” indicates that a homework assignment is due that day, and that class will begin with a quiz covering the previous week's material.

08/29: Course introduction, arguments in the wild, common fallacies

09/05: Scientific and deductive reasoning, introducing symbols (H/Q)
   Reading: None
   Homework due: the problem set handed out in the previous class.

09/12: Validity, truth, and soundness (H/Q)
   Reading: 1.1 – 1.7
   Homework due: the problem set handed out in the previous class.

09/19: Translating English into sentential logic (H/Q)
   Reading: 2.1 – 2.4
   Homework due: 1.3E 1 (all starred “*” problems); 2 b, d, j, l, p; 1.4E 1 (all starred problems), 2 (all starred problems); 1.6E 1 (all starred problems), 2 b, f, l; 3b, 4 b, f, l; 5 (all starred problems), 6 b, f, l; 1.7E 1 (all starred problems), 2 b, h

09/26: More translations (H/Q)
   Reading: review 2.1 – 2.4, skim 7.1 – 7.2
   Homework due: 2.1E 1 (all starred problems); 2 (all starred problems); 3 (answer only in regards to 2d); 4 (all starred); 5 (all starred); 6 b, d, n, r

10/03: Truth functionality and truth tables (H/Q)
   Reading: 3.1 – 3.6
   Homework due: 2.2E 1 (all starred); 2 b, h; 3 (all starred); 4 b, f; 5 (all starred) 2.3E 1 b, h 2.4E 3 (all starred); 4 (all starred); 5 (all starred)
10/10: Using truth tables: truth-functional equivalence and truth-functional validity (H/Q)
   Reading: review 3.3 – 3.6
   Homework due: 3.1E 1 b, 2 (all starred problems); 3 (all starred); 3.2E 1 (all starred); 2 (all starred); 3 (all starred); 4 (all starred); 5 b

10/17: Review and Midterm exam (H)
   Homework due: 3.3E 1 (all starred); 2 d; 3 b; 4 b; 3.5E 1 (all starred); do a shortened truth table for 2b; 3f; 4b

10/24: Derivations in SD: rules for conjunction and material conditional
   Reading: 5.1.1

10/31: Derivations in SD: rules for negation, disjunction, and material biconditional (H/Q)
   Reading: review 5.1.2 – 5.1.3
   Homework due: 5.1.1E 1 (all problems)

11/07: Derivations in SD+: rules of inference (H/Q)
   Reading: 5.1.4 – 5.3
   Homework due: 5.1.2E 1 (all problems); 5.1.3E 1 (all problems)

11/14: Derivations in SD+: rules of replacement (H/Q)
   Reading: 5.4
   Homework due: 5.1.4E 1 (all starred problems); 5.1.5E 1 (all starred); 2 (all starred); 5.3E 1 (all starred)

11/21: Derivations in SD+: derivation strategies (H/Q)
   Homework due: from the packet handed out 11/4, do 3, 7, 18, 26, and 36.

11/28: Review session for final exam (H/Q)
   Homework due: 15 derivations of your choice from the packet handed out 11/14

12/05: Final exam

Course Policies

**Electronic Devices:** Do not use any electronics in the classroom, please. No phones, no laptops, no tablets, no nothing. If you have a legitimate reason for bringing a device to class (if you have a sick kid at home who might need to call you, for example) please let me know before class starts.

**Attendance:** Your attendance is important. In this class, weekly quizzes and homework will stand in for attendance sheets. Quizzes cannot be taken late, and homework cannot be turned in late. However, only your 10 best scores out of 11 quizzes and homeworks will count toward your final grade. Think of this as a one-free-absence policy. More than one absence will incur the cost of a 0 for that week's homework and quiz. Obviously, attendance is a necessary condition of participation, so if you miss more than one class, expect your participation grade to suffer, too.

**Academic Honesty:** I encourage you to work together on your homework assignments, but *copying* is not allowed. You must write out your own answers, and they should reflect your own understanding of
the problem, not someone else's. If I discover that you are copying someone else's work without understanding it (for example, if you are unable to explain why you approached a homework problem in the way you did) I will record a zero for your entire homework score, which is 20% of your total course grade. The midterm and final are in-class exams, and collaboration is not allowed. If I discover you have cheated on an exam (for example, if you copy answers from someone sitting near you) I will record a zero for that exam.

**Time:** This is a 4-credit course. Expect to budget about 8 hours for homework in addition to classroom time.

**Patience:** People learn logic at different paces. Some of you will “click” with symbolic logic, and find the material relatively easily. Some of you will have to work hard most or all semester before it “clicks.” While you should, of course, be tolerant of the viewpoints of others in every class, it is important in a logic course that you also be patient with those who pick up the material faster or slower than you.

**Logic Tutor:** Jeff Alcand, a tutor in the math center with training in symbolic logic, is available to help with your homework. He is available for appointments on Tuesdays and Thursdays between 2 and 8 PM, in LIB 130 on the Saint Paul Campus. To schedule an appointment with Jeff or to ask about the Math and Writing Center's other services, call 651-793-1460 or email centerfolk@metrostate.edu.

**Disability Services:** Metro State has services available for any students with documented disabilities. If you’d like to take advantage of these, please contact them at Disability.Services@metrostate.edu. If you want to find out more about your options, go to http://www.metrostate.edu, click on Pathway to Student Services, then Academic Success > Disability Services. Also, if there’s anything I can do to help make your learning environment better, please let me know.

**Other Resources:**
- Computer Centers in Minneapolis (612-659-7245), St. Paul (651-793-1245) and Midway (651-999-5845). Metro State students have access to numerous software packages, an E-mail account, surfing the Web and installing Remote Access on their home computers.
- Information Technology Help Desk support is available by sending an email to IT.DESK@Metrostate.edu. During normal business hours, the IT DESK phone number is 651-793-1240. IT Help Desk provides support for campus web portal, campus email, campus website pages, and campus ‘live.edu’ accounts (usernames and passwords).

**Important Dates:**
- September 2nd is the last day to drop a course for a tuition refund. It is also the last day to drop without the course counting for your cumulative completion rate.
- November 16th is last day to withdraw from a course and receive a “W” instead of a grade.

**Dropping vs. Withdrawing:** According to new (2008) academic standing policy, Metro students must meet two criteria in order to remain in good academic standing: 1) maintain a cumulative Metro GPA of at least 2.0; and 2) successfully complete at least 66.66% of the Metro credits attempted. Students who do not meet these standards will be put on academic probation. A student who continues to fall below standards will be dismissed for academic reasons. So please make your decision this week about whether this course is right for you, and if, after that, withdrawal seems important, please check with your advisor to make sure that is the best option for you.