

# 10 Introduction to Logic

Christian Wüthrich

Spring 2015

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Schedule: MW 11-11:50am, WLH 2005  
Sections: A01: M 1-1:50pm, WLH 2207  
          ~~A02: M 2-2:50pm, WLH 2207~~  
          A03: W 4-4:50pm, CSB 004  
          ~~A04: F 10-10:50am, CENTR 222~~  
Website: [http://philosophy.ucsd.edu/faculty/wuthrich/teaching/2015\\_010.html](http://philosophy.ucsd.edu/faculty/wuthrich/teaching/2015_010.html)  
Contact: Office hours are MW 1-1:50pm, and by appointment  
          Room 8047 HSS ☎ 858-534-6548 ✉ [wuthrich@ucsd.edu](mailto:wuthrich@ucsd.edu)  
TA: Tomoya Sato (Office hours: W 1-3pm, and by appointment)  
      Room 8089 HSS ✉ [tosato@ucsd.edu](mailto:tosato@ucsd.edu)

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This course will cover two major topics: basic formal sentential logic and informal fallacies of reasoning. We will first spend about six weeks on the formal side, which covers translation to formal notation, truth tables, and proofs by natural deduction. Then we will spend about four weeks on informal reasoning, which covers some of the major types of mistakes people make when reasoning.

Note that students in this class are expected to complete their own work on exams, and not copy from other students or any other source. Violation of this is plagiarism and constitutes a violation of class and University academic integrity policy.

*Prerequisites:* None.

## Course materials

The text for the course is *Basic Sentential Logic and Informal Fallacies* (BSLIF) by Rick Grush, which is available at the Price Center bookstore. This text is brief, and covers everything you will need to know, and nothing that you won't need to know. The text also contains practice exams for all exams (and solutions) including the final exam. So of all the materials for the course, it is probably the most important.

In addition to the text, there is a logic website at <http://courses.ucsd.edu/rgrush/logic/> for this course, which has additional exercises with solutions. Rick Grush, who has developed the content for this course, also maintains a website at <http://mind.ucsd.edu/podcasts/index.html#logic>, where you can find materials for all lectures—including video, audio, and pdfs of powerpoint slides—freely available for download. While I am not identical to Rick Grush, and there will thus be some differences in the presentation of the material (though not in content), this is an excellent resource for you to study the material.

## Course requirements and evaluation

There are 1000 points possible for the course. This is broken down as follows: 110 for each of five exams, for a total of 550. The final is worth 450 points. The final exam is cumulative, i.e., covers the material from the entire class, with an emphasis on the material introduced after Exam 5. The exact breakdown of points on the final will be announced in class in due course.

Letter grades will not be assigned until after all points are in.

The worst-case scenario will be a straight 10% breakdown, that is, 900-1000 points will be As (A-, A or A+), 800-899 will be Bs (B-, B or B+), and so on. However, depending on the class average and grade distribution, the cut-offs may be curved slightly in your favor. For example, hypothetically, if the class average is low enough, As may end up being given for scores between 880 and 1000, for example. But in no case will the cut-offs move past a straight 10% breakdown, so that is the worst-case scenario. Whether or not there is a curve will not be known until all exams, including the final, are graded and recorded, since that is when I will know the average and distribution.

## The fine print

You must observe the University's Policy on Integrity of Scholarship, which can be found at <http://students.ucsd.edu/academics/academic-integrity/policy.html>.

No make-up exams will be given. If you miss a midterm exam for a legitimate reason, such as serious medical injury or illness, then the points will be made up in the following way: The final exam has sections that correspond to material from each exam—each worth 55 points. If a student misses a midterm exam for a legitimate reason, then the points that the student earns on that section of the final that corresponds to the missed exam will be multiplied by 2, and that number will be used for the student's exam score (because  $55 \times 2 = 110$ ). Legitimate reasons include serious illness with a doctor's note. Personal travel plans that conflict with the schedule, forgetting about the exam, etc., are not legitimate excuses.

If you miss an exam for a non-legitimate reason, such as a vacation or oversleeping, you can make the points up on the final exam with a 15% penalty, meaning that rather than multiplying the score on the relevant part of the final by 2, we will multiply it by 1.7. Missing a midterm exam will be made up using a factor of 1.7, **unless appropriate evidence of the legitimacy is produced before the final exam**. I will determine, in consultation with the student, what qualifies as appropriate evidence.

## Information for OSD students

If you are a student approved by OSD for special accommodations, you need to coordinate with me beforehand. For students who need 1.5 times the regular exam time, the usual practice is to start midterm exams an hour earlier than the scheduled time, and the final 2 hours before. The location is usually the department library. But for *each* exam for which you need accommodations, you should email me between 2 and 4 days prior to the exam to set up and verify the time and place. If I do not hear from you at least 2 days prior to the exam, then I cannot guarantee that I will be able to provide special accommodations.

## Tentative schedule of classes and web assignments

The following schedule is subject to change. The dates of exams may have to be changed for any of a number of reasons. This doesn't happen frequently, but it does happen from time to time. Therefore, you should plan to be available for all of these sessions. Schedule family vacations or whatever else on a day that this class meets at your own risk. If the schedule changes such that an exam falls on a day that you were planning to not be available, this does not constitute a legitimate excuse for missing the exam. If any exam days change, these changes will be announced on the course website as soon as known.

Exams will be given during the first part of the specified lecture session.

<b>Date</b>	<b>Topic</b>	<b>Modules (with hyperlinks)</b>
<i>30 March</i>	Introduction to the class, and to the topic	<a href="#">Chapter 1 Exercises</a> <a href="#">Solutions</a>
<i>1 April</i>	Arguments, statements, and recursion	
<i>6 April</i>	Translating natural language into formal notation	
<i>8 April</i>	<b>Exam 1</b>	
<i>13 April</i>	Truth functions and truth tables	<a href="#">Chapter 2 Exercises</a> <a href="#">Solutions</a>
<i>15 April</i>	Equivalence, consistency, implication, and validity	
<i>20 April</i>	<b>Exam 2</b>	
<i>22 April</i>	Introduction to proofs in sentential logic	<a href="#">Chapter 3 Exercises</a> <a href="#">Solutions</a>
<i>27 April</i>	Proofs in sentential logic, continued	
<i>29 April</i>	<b>Exam 3</b>	
<i>4 May</i>	Proofs continued, indirect proof	<a href="#">Chapter 4 Exercises</a> <a href="#">Solutions</a>
<i>6 May</i>	Conditional proof, nested subproofs, tautologies	
<i>11 May</i>	Proofs: clarifications and common errors	
<i>13 May</i>	<b>Exam 4</b>	
<i>18 May</i>	Informal fallacies	<a href="#">Chapter 5 Exercises</a> <a href="#">Solutions</a>
<i>20 May</i>	Informal fallacies (continued)	
<i>25 May</i>	<b>Memorial Day</b>	
<i>27 May</i>	<b>Exam 5</b>	
<i>1 June</i>	Informal fallacies (continued)	
<i>3 June</i>	Informal fallacies, additional examples	
<i>12 June</i>	<b>Final exam</b> , 11:30am-2:30pm	