

# INTRODUCTION TO SYMBOLIC LOGIC

PHIL012.001 • Fall 2012 • Online: All Exams and Quizzes administered via ANGEL

**David W. Agler, PhD**

Office Location: Chat (see *Yammer & Office Hours* below)

Office Hours: MW 1:15–2:00

e: [dwa132@psu.edu](mailto:dwa132@psu.edu)

w: [www.davidagler.com](http://www.davidagler.com)

## COURSE DESCRIPTION

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This is an introductory course in symbolic logic. *Logic* is the science of correct reasoning. *Symbolic logic* is a particular branch of logic that studies correct reasoning using a formal or artificial language. This course will articulate two different formal languages: propositional logic and predicate logic. In both languages, we will examine how these artificial languages relate to English (a natural language), different ways in which formal languages can be used to determine whether arguments are valid (or invalid), and how to reason using these languages.

## COURSE OVERVIEW

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### REQUIRED TEXTS

1. Agler, David W. *An Introduction to Symbolic Logic: Syntax, Semantics, and Proof*.

You can order this textbook through [ProCopy](http://courseworks.net/PHIL_012_Agler_and_Fisher_Fall12): <[http://courseworks.net/PHIL\\_012\\_Agler\\_and\\_Fisher\\_Fall12](http://courseworks.net/PHIL_012_Agler_and_Fisher_Fall12)>

### COURSE OBJECTIVES

- **Critical Reasoning Skills:** Students will learn certain fundamental features of language and argument analysis, which will allow them to identify arguments, isolate the premises and conclusion of these arguments, and represent language using a formal language.
- **Analytical Reasoning Skills:** Students will develop a specialized set of skills that will allow them to translate arguments into and reason with a formal language. This language will also allow them to mechanically determine various logical properties of sentences, sets of sentences, and arguments.
- **Critical Thinking:** Students will develop a general set of skills that allow them to analyze and assess a variety of different arguments, deciding whether the arguments are properly supported, fallacious, or valid. In addition, students will learn how to employ various strategies for proving the deductive validity of arguments.
- **Dialogue & Expression:** Students will engage in respectful conversation with classmates as well as collaborate with their peers to better learn logic. In addition, students will learn how to clearly articulate and represent various arguments as well as convey the process (or strategies) by which certain conclusions are reached.

### COURSE WORK

- **Readings and Interactive Materials (ungraded):** Each lesson requires a significant amount of reading from the text, and contains additional on-line content and interactive materials. Any questions about any of these materials can be posted to the *Yammer* PHIL012 Logic Page. Your instructor will check this forum daily.
- **Participation (5% of final grade):** Participation will be calculated in two ways:
  - Completing regularly-assigned exercises throughout the course.
    - Exercises are graded in terms of *completion* rather than on the basis of whether or not they are correct. A list of exercises will be made available in each Lesson folder.
    - In order to receive full credit, it is necessary that they are uploaded (using an appropriate file format) to the *Exercise File Dropbox* in each Lesson Folder (in ANGEL) before the due date.
  - Active participation on either the *Yammer* PHIL 012 Logic Page
    - There is no fixed number of times, but posting at least one *high quality* response for every two chapters is a suggestion.

- **Eight Practice Quizzes (10% of final grade):** Each lesson will contain a practice quiz that you should take when you have completed the readings, done all the exercises, and gone through all the on-line materials. These are designed to help you assess how prepared you are for the quiz and/or exam for that lesson. These will be graded for completion rather than for correctness.
- **Eight Quizzes (15% of final grade):** Most lessons will also contain a quiz covering the material for that lesson. The format of the quiz will vary depending on the subject matter of the lesson, but it will be similar to that of the practice quiz for that lesson. **Note:** *Quizzes will be subject to a time limit. After the time expires, the quiz will be inaccessible and the grade will be calculated based on what is completed so far. Students will be given a warning prior to the time limit. See quiz instructions for details.*
- **Five Exams (70% of final grade):** There will be 5 exams. The exams will be time-limited but can be taken any time during the exam period. Format will vary depending on the material covered. No consultation with course materials, other students, or outside materials is allowed during exam period. **Note:** *Exams will be subject to a time limit. After the time expires, the exam will be inaccessible and the grade will be calculated based on what is completed so far. Students will be given a warning prior to the time limit. See exam instructions for details.*

### **INSTRUCTOR FEEDBACK & RESPONSE TIME**

- *Getting General Feedback:* If you have content-related questions or want to collaborate with your peers, you have three options: (1) via *Yammer*, you can communicate with your instructor during **online office hours** using the chat function, (2) via *Yammer* (see below), you can post questions, comments, and other materials, (3) you can email your instructor. **Note:** When corresponding with your instructor or classmates, please use appropriate language and etiquette. For the best possible feedback, try to formulate your question or comment as precisely as possible, referring to page numbers, posting what you think the answer *might* be, etc.
- *When will I get feedback?* Concerning questions, concerns, and comments, your instructor will reply to you in a timely manner, not to exceed three business days. Concerning written assignments, your instructor will provide you meaningful feedback within one week of the deadline.

### **YAMMER & OFFICE HOURS**

- *To Sign Up For Yammer:* Go to [www.yammer.com/psu.edu](http://www.yammer.com/psu.edu) and using your Penn State ID, join Yammer. Once you have joined yammer, join the “PHIL 012 Symbolic Logic” group. There you will be able to access and post materials, ask questions, and interact with other students taking the course.
- *Office Hours:* Your instructor will hold office hours via *Chat* available in Yammer.com. You can find my name by searching for me or by joining the “PHIL 012 Symbolic Logic” and finding me as one of the participants.

### **TECHNICAL SUPPORT**

The “*I Need Technical Assistance ...*” message board should be the first recourse for communicating specific questions or problems. Students are encouraged to respond to the problems and questions posted there by their peers. To access ANGEL’s technical support page, click on the Help button (in the image of a question mark), found on the left of the screen in ANGEL. Persons needing General ANGEL assistance may call 814-865-4928 between 7:00AM EST and 5:00PM EST, Monday through Friday. Please use the forms available on the Help website whenever possible and an ANGEL support expert will assist you. Turnaround time is generally less than one business day.

## COURSE POLICIES

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### ACADEMIC MISCONDUCT

The general principles and policy relating to cheating and plagiarism, which are enforced in this class, can be found in the Penn State policy on academic misconduct. *Academic Integrity*: Academic dishonesty encompasses a wide range of activities, whether intentional or unintentional, that includes, but is not limited to: all forms of fraud, plagiarism, and any failure to cite explicitly all materials and sources used in one's work. Sanctions for these activities include, but are not limited to, failure in a course, removal from the degree program, failure in a course with an explanation in the permanent transcript of the cause for failure, suspension, and expulsion. If you are unclear about whether you or someone you know is engaging in academic misconduct, read the following: [University Statement on Academic Integrity](#). For more information, see [PSU Academic Integrity](#), [PSU ITS](#), [Plagiarism Tutor](#), [Turnitin](#), [PSU Teaching & Learning with Technology](#)

### DEADLINES

All assignments are due by **11:30pm EST** on the assigned date (please refer to the course calendar in the Getting Started folder for due dates). Students will be unable to go back and complete course work; it is your responsibility to keep up with your assignments. Students with an excused absence (hospitalization, jury duty, or family emergencies) may be asked to produce proper documentation in order to make up graded work. All make up work is at the discretion of the instructor.

### GRADE ROUNDING

Grades will be rounded up from the *second* decimal point, e.g. 90.95 rounds up to 91.0 while 90.94 rounds down to 90.90. In the event that eLION does not allow for a particular grade (e.g. D+), you will simply be given the letter grade (e.g. if you have a D+ then you will receive a D, and if you have a C-, you will receive a C).

|               |               |                            |
|---------------|---------------|----------------------------|
| A: 91–100%;   | C+: 79.0–79.9 | F: 0–59.9                  |
| A–: 90.0–90.9 | C: 71.0–78.9  | <a href="#">INCOMPLETE</a> |
| B+: 89.0–89.9 | C–: 70–70.9   | <a href="#">DROP</a>       |
| B: 81.0–88.9  | D+: 69.0–69.9 |                            |
| B–: 80–80.9   | D: 60.0–68.9  |                            |

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### ACCESSIBILITY STATEMENT & FURTHER STUDENT GUIDANCE

Penn State welcomes students with disabilities into the University's educational programs. If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services (ODS) at 814-863-1807 (V/TTY). For further information regarding ODS, please visit the Office for Disability Services Web site at: <http://equity.psu.edu/ods/>.

In order to receive consideration for course accommodations, you must contact ODS and provide documentation (see the documentation guidelines at <http://equity.psu.edu/ods/guidelines/documentation-guidelines>). If the documentation supports the need for academic adjustments, ODS will provide a letter identifying appropriate academic adjustments. Please share this letter and discuss the adjustments with your instructor as early in the course as possible. You must contact ODS and request academic adjustment letters at the beginning of each semester.

If you are in need of psychological counseling, please do not hesitate to contact Penn State's [Counseling & Psychological Services](#) (phone: 814-863-0395). For any problem related to your studies, university policies and procedures, do not hesitate to seek the help of the [Student Affairs Services](#), your Academic Advisor, or arrange a meeting with your instructor who will help you obtain assistance through one of the above, or another, agency.

### **USE OF ANGEL AND EMAIL COMMUNICATION**

Please check the webpage on the [ANGEL](#) website regularly. An online version of the syllabus is available there, and you will be notified of any cancellation of a course meeting there. If you need to contact me, send a well-constructed email to your instructor's email address with an appropriate subject line (e.g. PHIL012 Logic Question) and with an appropriate address (e.g. "Dear David"). Failure to do either, or emailing me with multiple links attached ("check this youtube link") may result in your email being inadvertently deleted. Students are responsible for activity on their computer accounts so only send emails pertinent to the course. Also, please do not send correspondence from cellular telephones (e.g. Blackberries, etc.).

### **TUTORING, DROP PROCEDURES, AND INCOMPLETES**

Through the course of the semester, you may decide you need additional tutoring. Occasionally, [Penn State Learning](#) offers private tutoring. At their website, go to the "Resources" page, and click "Engage a Private Tutor" to request a tutor for this course. Consult the Register site for [drop procedures](#). Consult the Handbook for taking an [Incomplete \(D/F\)](#).

First Update: 8/13/2012

Second Update: 8/21/2012