

PHIL201-001: Introduction to Logic

(Ellensburg Campus, Class # 32417)

Updated May 8, 2009

Mon-Fri.: 9:00-9:50 am, Languages & Literature Building 106D
University of Central Washington, Ellensburg, Spring Quarter, 2009

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Note to the Student: Course contents will be made available on **Blackboard (Beginning March 31st)**. Such contents include ppt slides, notes, announcements, and syllabus updates. I will be circulating the announcement via email. *It is therefore important to check your email address specified in the Safari System frequently!*

Course Overview & Statement of Purpose

This course will teach students to think critically about reasoning (both formal and informal). “Logic” refers naturally to the basic rules regarding what one considers as proper reasoning. This involves both syntax (proper form) as well as semantics (proper meaning or truth-conditions). Mastery in the basics of logic requires both the ability to analyze and critically reflect on argument forms (both deductive and inductive) as well as constructing (or proving) simple argument forms. No philosophical prerequisite material or ability is assumed or expected from the student, other than an openness for rational reflection and inquiry. As in most philosophical activity, the goal is not so much arriving at fixed “answers”, but instead to develop a systematic framework for disciplined dialectic and critical inquiry; or to acquire methods for systematically *questioning* as well as *arguing* and *proving* in a coherent and consistent way.

Student Learning Objectives

In the light of the above Statement of Purpose and Course Overview, the student learning objectives include:

1. Acquiring the objective content (in terms of basic definitions and concepts of logic) of the assigned readings and problems, which will be assessed through short quizzes drawn from the assigned problems of that particular week.
2. Based on point 1. above, acquiring the skills necessary for logical analysis and critical reasoning (both formal and informal) which include, but is not limited to, identifying basic argument fallacies. Selected quizzes, the midterm and the final exam exams shall assess such skills (technical and qualitative).
3. Based on points 1. and 2. above, acquiring the appropriate skills for simple proof and argument construction (both in deductive and inductive cases). Selected quizzes, the midterm and the final exam exams shall assess such skills.

Course Assignments & Grading Policy:

You are expected to attend class regularly, to carefully study assigned readings, and to complete all assignments:

Exams & Quizzes

- Five Quizzes (~20-30 min. allowed time) **(20% of grade)**
- Exam I (50 min. allowed time) **(20% of grade)**
- Exam II (50 min. allowed time) **(20% of grade)**
- Final exam (120 min. allowed time) **(30% of grade)**

Attendance

- Attendance **(10% of grade)**

N.B.: Quizzes & Attendance

- A **quiz** based on topics covered for that week (including assigned questions and problems) **will usually be given at the beginning of each Friday class-except on exam days or if announced otherwise.** (see **Detailed Class Schedule** below). **Your lowest two quiz scores will be dropped.**
- **Attendance** will be taken **at least** 4 times per week, **beginning April 1st**. If you have missed a class, and you think your absence is excused, see ***Make Up Policy*** below. (You must furnish official University-approved documentation **in person**). **Emailed excuses and/or explanations will not be accepted--I will automatically delete them without response.**
- **Homework Exercises & Questions** will be assigned throughout the quarter from the appropriate sections of the textbook (see **Detailed Class Schedule** below). **I will not grade or collect these exercises, although you may ask questions about them at the beginning of class (especially during homework Q & A days, offered once per week) and/or during office hours.** Their primary purpose is to prepare you for the quizzes and exams.

Important Dates

- **Exam I:** Friday, April 24th
- **Exam II:** Friday, May 22nd
- **Final Exam:** Location (unless otherwise announced): **Classroom (LL106D)** & date and time:

Mon-Fri @ 9:00am Tuesday, June 9th 8:00 am-10:00 am

(Check Safari: <http://www.cwu.edu/~regi/schedules/0809FinalCal.pdf> for any possible updates or changes). Link for the Spring 2009 Academic Calendar: <http://www.cwu.edu/~regi/schedules/Spring2009AcadCal.pdf>

- **Memorial Day:** No classes & Administrative offices closed **Monday, May 25th, 2009.**

- **Last Day of Regularly Scheduled Class Meetings: Friday, June 5th, 2009.**

Final Grade Scale

Your final grade¹ will depend on the percentage you earn of the total points possible in the class:
A: 89.5%-100.0%; **B:** 79.5.0% -89.4% ; **C:** 69.5% - 79.4%; **D:** 59.5%-69.4%; **F:**< 59.5%

Incomplete Grade and Late Policy

- An “I” grade shall only be awarded, based on the discretion of the instructor. Subject to this discretion, the student must have **satisfactorily** completed a **sufficient** portion of the course by the end of the term. For further details, see p. 30, *CWU Catalog for the Academic Year 2008-2009*.
- Assignments submitted late will receive a penalty of one letter grade (10%) per school day late.

Make-Up Policy

If you will be (or have been) absent for an exam or quiz, you will need to provide a university-approved justification for your absence in order to be allowed to take a make-up exam or quiz.

Class Meeting Cancellation Policy

If under very usual extenuating circumstances (i.e., severe weather-related, etc.) I will be forced to cancel the class on such a particular day, in addition to following Department guidelines I will strive to my utmost to circulate via email and post on Blackboard the evening before to inform you in advance. The same goes in cases of sudden University closures or delays. Please bear in mind that in the event of a sudden class cancellation, unless I notify you otherwise you are still responsible the material assigned for that day. Moreover, if any quizzes or exams are scheduled on that particular day (in the event of a class cancellation), they shall be scheduled on the following business day (assuming class will resume), without late penalties in this (and only in this) particular case.

Proscribed Behavior & Classroom Courtesy

Disruptive behavior of any kind will not be tolerated. Such behavior includes, but is not limited to, overt and covert behavior violating CWU’s policy on diversity, as well as meeting any item(s) constituting sexual harassment. For further details, please consult the Appendices of *CWU Catalog for the Academic Year 2008-2009*. Other forms of proscribed behavior would violate the norms of courtesy, as judged by the discretion of the instructor. Aside from obvious norms, such as refraining from unruly behavior (whether in the form of verbal outbursts or other) such norms of courtesy would also include:

- Remember that oral participation in philosophy (and especially, of course, in a subject as structured as logic) entails *well-thought out* questions posed in a rational framework. If necessary, write your question down and/or rehearse it silently before sharing it in class. Make an effort to be succinct, clear, and concise. (Note: If you prefer, you may also email

¹ Note that CWU’s final grades is also on a +/- system, based on 3 percentage point below or above threshold. (For example: a C-: 69.5%-72.9%, a C: 73.0%-76.4%, a C+: 76.5%-79.4%)

- questions for discussion. More details concerning email policy shall be posted in the **Announcements** section of the Blackboard site for this course).
- Refraining from private conversation and/or other forms of communication among peers both inside and outside of class (i.e., texting, emailing, etc.) during lectures or discussion days.
 - **Switching cell phones off during class.**
 - Avoiding eating and drinking in class. If you *must*, do so noiselessly and with utmost discretion.

Failure to comply with *any* of the above standards may result in your physical removal from class; whether by explicit request from the instructor or by escort from Campus Security (for serious violations thereof), in addition to further disciplinary measures as set forth by the policies stated in the Appendices of *CWU Catalog for the Academic Year 2008-2009*.

Plagiarism and Academic Dishonesty

There are four types of academic dishonesty: cheating, fabrication, facilitating academic dishonesty, and plagiarism. It is your responsibility to understand what constitutes dishonesty of these four types. For further information, please consult the policies stated in the Appendices of *CWU Catalog for the Academic Year 2008-2009*. Incidents of academic dishonesty are taken very seriously, and will be forwarded to the office of judicial programs any cases of it that come to attention.

Special Accommodations/Disabilities

Students with disabilities who wish to arrange for academic adjustments in this class are encouraged to provide me with a copy of their Confirmation of Eligibility of Academic Adjustments and meet with me as soon as possible to discuss their needs and the manner in which their accommodations will be delivered.

Course Textbook(s)

- **(Required)** Patrick Hurley, *A Concise Introduction To Logic* (10th edition). Thompson Wadsworth., 2008. ISBN-13: 978-0-495-50383-5

In addition from selected readings from this textbook, other items (articles, sections from other books, handouts) may be made available on Blackboard (see “BB”) throughout the quarter (and announced accordingly via email and Blackboard). Selections will come from the following sources:

- Francis Howard-Snyder, Daniel Howard-Snyder, Ryan Wasserman, *The Power of Logic* (4th edn.), McGraw Hill, 2009. ISBN: 978-0-07-340737-1.
- Paul Lorenzen, *Formal Logic*, (translated by Frederick Crosson) Dordrecht, Holland: D. Reidel, 1965
- Robert G. Olson, *Meaning and Argument: Elements of Logic*, NY: Harcourt, Brace & World, Inc., 1969.

Note that the above is an instructional textbook (not an anthology). In the event that the textbook's delivery to the bookstore has been delayed from the publisher I will make

the appropriate photocopied material available on Blackboard. We shall cover most (if not all) of the following major issues in the following order: *Informal Logic* (selections from chapters 1-3), *Formal Logic* (categorical propositions, categorical syllogisms, propositional & predicate logics—selections from chapters 4-8). Time permitting, we may cover some selections in Inductive Logic (analogy, causality, or moral reasoning—selections from chapter 9).

Detailed Class Schedule

- Below are the details for weeks 1-10. The schedule shall be updated on a weekly or biweekly basis and posted on Blackboard (as an updated syllabus) no later than the beginning of each week or two week period².
- The Assigned Readings are for the topic covered in class on that day, as homework. I will take roughly 5-10 minutes to answer questions you may have on the readings in the following class period. If you have further questions, please see me during office hours.

Topic	Date	Assigned Readings	Assigned Problems
<i>Course Introduction</i>	03/31/09	Hurley: pp. 1-9	Exercise 1.1: I. 2,4,8,11,13; II. 1,3,6,7,8, III., IV. 1-10

The Elements of Informal Logic

<i>Informal Arguments</i>	04/01/09	Hurley: pp. 14-24, 32-38	Exercise 1.2: I: 5,7,11,19,26,35; II: 4,6,9; III: 10, IV; VI: 1.3: 7,11,17, 29, 30
<i>Validity, Truth, Soundness</i>	04/02/09	Hurley: pp. 42-50	Exercise 1.4: I: 4,11,13,15; II: 7, 11, 14, 15; III.: 4, 6, 8, 10, 13, 18; IV.
<i>Validity (cont.), extended argument</i>	04/03/09	Hurley: pp. 54-66 <i>Exercise Q&A</i> <i>(week of 3/31 –4/03)</i>	Exercise 1.5: I:4,6,9, II: 1,4,7,9 Exercise 1.6: I:4,9,10; II: 1,6,8, 10
<i>What is meant by “meaning?”</i>	04/06/09	Hurley: pp. 74-78, Olson (BB): pp. 20-31	Exercise 2.1: II: 1,3,6,8,9,10, Olson (BB): p. 32, Exercises B, C.
<i>Extension & Intension</i>	04/07/09	Hurley: pp. 84-87, Howard-Snyder, et. al. (BB): pp. 118-123	Exercise 2.2: II: 1, 2, 3, 4.(a)-(e), 5.

² I.e., Monday morning. Generally, however, unless otherwise noted, you should expect the updates to occur Friday afternoon or during the weekend before. As stated in p.1 above, I will circulate via email any updates or new postings I make on Blackboard.

<i>Definitions</i>	04/08/09	Hurley: pp. 88-94, 97-103	Exercise 2.3: I: 2, 4, 6, 9, 11, 18, 23. II: 1,3,4, III. , Exercise 2.4: I: 8, 11, 17, 26, II: 2,3,5 (d) (g), 6.(b), 7.(b), (d)
<i>Informal fallacies (using definitions)</i>	04/09/09	Exercise Q&A (week of 4/06-4/09) Howard-Snyder, et. al. (BB): pp. 134-139	Howard-Snyder, et. al. (BB): Exercise 3.3: Part A: 4, 8; Part C: 3, 4, 8, 10.
<i>Argument Fallacies (cont.)</i>	04/10/09	Quiz 1 (3/31-4/09) Hurley: pp. 113-126	Exercise 3.1: I. 2, 4, 5, 9; 3.2: I. 2, 4, 6, 9, 12, 15, 19, 24, II.
<i>Argument Fallacies: Weak induction</i>	04/13/09	Hurley: pp. 131-142	Exercise 3.2: 2, 4, 6, 9, 12, 15, 19,24 , II. 3.3: I. 2, 4, 8, 11, 14, II., III. 3, 6, 10, 14, 18, 24, 30.
<i>Argument Fallacies: Ambiguity</i>	04/14/09	Hurley: pp. 149-164, Howard-Snyder, et. al. (BB): 166-174 (optional-highly recommended)	Exercise 3.4: I. 3,5,6,7,12,15,20,21,24: III. 2,11,14,17,21,29,33,38,40,41,48, Howard-Snyder (BB): p. 174, # 27.
<i>Argument Fallacies: Ordinary language</i>	04/15/09	Exercise Q&A (week of 4/10-4/14) Hurley: pp. 172-178, 187 Howard-Snyder, et. al. (BB): 177-188 (optional-highly recommended)	Exercise 3.5: I. 2,4,6,10,12,15,18,21,25,29,36,47,50,51, 54,57.
The Elements of Formal Logic: Part I			
Categorical Syllogisms and Elementary Statement Logic			
<i>Categorical Propositions (an overview)</i>	04/16/09	Quiz 2 (4/10-4/14) Hurley: pp. 189-196	Exercise 4.1. (all), 4.2, I., II., III., IV. Part A
<i>Traditional and Modern Versions of the Square of Oppositions</i>	04/17/09	Hurley: pp. 215-221, 196-204	Exercise 4.3: I: .2, .6, .8, II: .2, .5, .9, .11, .14 Exercise 4.5: I: .2, .5, .8, II: .3, .8, .11, .14, III: .2, .15.
<i>Conversion, Obversion, Contraposition</i>	04/20/09	Hurley: pp. 205-213	Exercise 4.4: I: .5, .8, .11, .12, II: .1.(c), (d), 2.(b),(d), 3.(b),(c), III. 5, .6, .8, .11, .15, .18, .20
<i>Venn Diagrams & Translation Schemes</i>	04/21/09	Hurley: pp. 225-240	Exercise 4.6: I: .3, .5, .8, II: .9, .11, .15 Exercise 4.7: I: .5, .9, .12, .15, .18, .23, .27, .32, .47, .53, .57, .60 II: .2, .6, .8
<i>Categorical Syllogisms (Basics) & Venn Diagrams</i>	04/22/09	Hurley: pp. 244-261	Exercise 5.1: I: .1, .3, .5, II: .3,.5,.7,.9, III. .2, .6, .9, IV. .2, .3, .5; Exercise 5.2: I. .3, .7, .12, .17

<i>Review-Exam I</i>	04/23/09	<i>Exercise Q&A</i> (week of 4/15-4/22)	
	04/24/09	EXAM I (3/31-4/22)	
<i>Rules & Fallacies</i>	04/27/09	Hurley: pp. 264-270 Howard-Snyder, et. al. (BB): 269-273 (optional-highly recommended)	Exercise 5.2: I. .17, .18, .20; II. .3, .5, .9 Exercise 5.3: I. .5,.8,.11,.15,.18; II. ..2,.3,.6, .9
<i>Reduction Techniques (formal & informal) & Enthymemes</i>	04/28/09	Hurley: pp. 272-280	Exercise 5.4: .2,.3,.5,.6,.8,.10 Exercise 5.5: .3,.6,.9,.11,.14 Exercise 5.6: I. .3,.6,.9,.12,.15, II (use the same as in I.); III. 3., .6, .8, .9
<i>Sorites</i>	04/29/09	Hurley: pp. 282-284 Howard-Snyder, et. al. (BB): 261-266 (optional-highly recommended)	Exercise: 5.7: I.: .3, .5, .8 II (use the same as in I.); III.: .2, .8
<i>Sorites (cont.)</i>	04/30/09	<i>Exercise Q&A</i> (week of 4/23-4/29) Hurley: pp. 290-299	Exercise 6.1: I. .5, .9, .12,. .15, .20, .23, .27, .38, .47, .50; II. .3, .11, .17, .20; III.: .4,.7,.10
<i>Sorites (cont.)</i>	05/01/09	Quiz 3 (4/23-4/29*) * Excluding §5.5, 5.6 Hurley	No class following Quiz (Proctored by Dr. Gary Bartlett)
<i>Propositional Logic: Introduction</i>	05/04/09	Hurley: pp. 290-299	Exercise 6.1: I. .5, .9, .12,. .15, .20, .23, .27, .38, .47, .50; II. .3, .11, .17, .20; III.: .4,.7,.10
<i>Truth Functions and Truth Tables</i>	05/05/09	Hurley: pp. 302-319 Howard-Snyder, et. al. (BB): 310-319 (optional-highly recommended)	Exercise 6.2: I. 5, 8, 9; II. 2, 5, 8, 9, 12, 14, 15 III.: .5, 8, 11, 15, 18, 20, 23, IV.: 2, 5, 8, 11, 14 Exercise 6.3: I. 3,7,12,13,15, II. 6,9,14,15
<i>Truth Tables for Arguments (Direct and Indirect)</i>	05/06/09	Hurley: pp. 321-331 Howard-Snyder, et. al. (BB): 322-328 (optional-highly recommended)	Exercise 6.3: III. 3, 6, 8 Exercise 6.4: I. 4, 6, 8, 9, 10, II. 5, 7, 9, 12, 15, 18, 20 Exercise 6.5: I. 3, 6, 9, 10, 15 II. 5, 8, 10
<i>Argument Forms and Fallacies</i>	05/07/09	<i>Exercise Q&A</i> (week of 5/04-5/06) Hurley: pp. 333-339	Exercise 6.6: I. 1, 4, 7, 13, 18
<i>Argument Forms and Fallacies (cont.)</i>	05/08/09	Quiz 4 (5/04-5/06) Hurley: pp. 339-343	Exercise 6.6: II. 2, 5, 9, 10, 15, 19, 20, III. 3, 5, 8, IV. 3, 8, 9
The Elements of Formal Logic: Part II			
Natural Deduction in Statement (“Propositional”) Logic & Predicate Logic			
<i>Rules of Implication I</i>	05/11/09	Hurley: pp. 350-356	Exercise 7.1: I. 3,6,13,15,20, II. 2,5,9,11,14,18 III. 6,11,14,17,20,24 IV. 2,5,8,9

<i>Rules of Implication II</i>	05/12/09	Hurley: pp. 361-366	Exercise 7.2: I. 5,8,9, II. 2,5,8,9 III. 2,3,8,11,14,17,18,21,24,27,29, IV. 3,6,9
<i>Rules of Replacement: I</i>	05/13/09	Hurley: pp. 370-376	Exercise 7.3: I. 5,6,9,11,14, II. 2,5,8,11,15 III. 2,5,9,12,15,18,21,24,27,30,32, IV. 2, 5, 8,9
<i>Rules of Replacement II</i>	05/14/09	<i>Exercise Q&A (week of 5/07-5/13)</i> Hurley: pp. 381-385	Exercise 7.4: I. 5, 8, 12, 15, II. 3,9, 12, III. 5, 9, 15, 20, 24, 30, 33, IV. 2, 5, 9
<i>Rules of Replacement II (cont.) & Boolean Circuits (for Extra Credit Assignment)</i>	05/15/09	Hurley: pp. 381-385 See also Supplement Posted in Lecture Notes	Exercise 7.4: I. 5, 8, 12, 15, II. 3,9, 12, III. 5, 9, 15, 20, 24, 30, 33, IV. 2, 5, 9 Extra Credit Assignment to be posted (in Assignments Folder)
<i>Conditional Proof</i>	05/18/09	Hurley: pp. 391-395	Exercise 7.5: I. 3,9,13,15,18, II. 2,3,5,
<i>Indirect Proof</i>	05/19/09	Hurley: pp. 397-400	Exercise 7.6: I. 3,5,8,12,18,19 II. 2,3,4,5
<i>Proving Logical Truths & Review EXAM II</i>	05/20/09	<i>Exercise Q&A (week of 5/14-5/19)</i> Hurley: pp. 381-385	Exercise 7.7: 1,6,11,15,18,20 Extra Credit Assignment DUE IN CLASS (Absolutely no late papers will be accepted for <u>any</u> reason!)
	05/21/09	EXAM II (4/27-5/20)	
<i>Predicate Logic: Introduction (Symbols/ translating)</i>	05/22/09	Hurley: 406-413	Exercise 8.1: 3,9,12,17,23,28,35,41,48,54,57
<i>Rules of Inference in Predicate Logic</i>	05/26/09	Hurley: 415-424	Exercise 8.2: I. 2,4,7,11,14, II. 3,7,9
<i>Change of Quantifier</i>	05/27/09	Hurley: 425-428	Exercise 8.3: I. 3,6,8,13, II. 3,5,6,8
<i>Conditional & Indirect Proof</i>	05/28/09	Hurley: 430-434	Exercise 8.4: I. 2, 4,7,12,14,20, II. 3,6,8
<i>Proving Invalidity</i>	05/29/09	<i>Exercise Q&A (week of 5/20-5/28)</i> Hurley: pp. 435-440	Exercise 8.5: I. 4, 7,9,, II. 3,6,10, III. 3,5
<i>Relational Predicates & Overlapping</i>	06/01/09	Hurley: pp. 441-450	Exercise 8.6: I. 10, 13, 19,24,27,29, II. 3,8,11,14, III. 3,5,8

<i>Quantifiers</i>			
<i>Identity</i>	06/02/09	<i>Exercise Q&A</i> (week of 5/28-6/02) Hurley: 453-462	Exercise 8.7: I. 6,10,14,18,22,25,32,40,44,48, II.: 2,5,9,15,19, III.: 2, 8,11,14,15
<i>Analogical & Moral Reasoning (overview)</i>	06/03/09	Quiz 5 (5/22-6/02) Hurley: ch. 9 (selections) (time permitting)	Examples (posted handout-Lecture supplement)
<i>Course review</i>	06/04/09	<i>Course Review</i>	Review Exercise/Q&A/Evals/
<i>Final Exam review & Q&A</i>	06/05/09	<i>Final Exam Review</i>	

- **Note: The Content of the Syllabus is liable to change, please check the Blackboard postings and other announcements for updates.**