**Philosophy 211: Elementary Logic**

MWF 9:55-10:45 a.m., Grainger 1295

**Contact Information:**

Instructor: Jacob Krch

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**Course Requirements: Grading scale:**

Midterm I 20% A 92.5-100%

Midterm II 20% AB 87.5-92.4%

Final 20% B 82.5-87.4%

Problem Sets 40% BC 77.5-82.4%

C 70-77.4%

D 60-69.9%

**Tentative Schedule**

Textbook: Virginia Klenk, *Understanding Symbolic Logic*. 5th ed. 2007.

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| Date | Reading | Topic |
| 9/04 |  | What Logic is and Why you Should Study it. Class Information. |
| 9/06 | 4-17 | Arguments and Validity. Deduction vs. Induction |
| 9/09 | 21-31 | Intro to Formalization and to Sentential Logic |
| 9/11 | 33-42 | T-F Simple and Compound Sentences, a few examples of truth tables |
| 9/13 | 42-48 | Computing Truth Values |
| 9/16 | 51-65 | Symbolizing English Sentences |
| 9/18 | 65-69 | Symbolizing Multiply Complex Sentences |
| 9/20 | 74-83; 95-100 | Truth Tables for Testing Validity; Tautologies, Contradictions and Contingencies |
| 9/23 | 100-7 | Testing for Other Semantic Properties |
| 9/25 | 83-91 | Finish Up discussion of Semantic Properties; Shortcut Validity Tests |
| 9/27 | 113-22 | Introduction to proofs; Modus Ponens, Modus Tollens |
| 9/30 | 122-7 | Hypothetical Syllogism; Simplification; Conjunction; Dilemma |
| 10/2 | 128-38 | Proofs |
| 10/4 | 147-152 | Replacement Rules |
| 10/7 | 152-8 | More Replacement Rules |
| 10/9 | 158-67 | Proof Strategies |
| 10/11 | 175-189 | Conditional Proof and Indirect Proof |
| 10/14 | 189-194 | Proofs of Theorems and Semantic Properties |
| 10/16 | Review | Open |
| 10/18 | Review | **MIDTERM 1** |
| 10/21 | 201-9; 212-22 | Introduction to Predicates, Predicate Logic; Quantifiers |
| 10/23 | 226-9; 238-44 | Translating English into PL; Categorical Forms |
| 10/25 | 249-58 | Complex Subjects and Predicates |
| 10/28 | 299-304 | Semantics of Quantifier Logic; Invalidity in Quantifier Logic |
| 10/30 | 304-311 | Model Universe Method |
| 11/1 | 263-8; 273-7 | Quantifier Form; E.G and U.I |
| 11/4 | 278-85 | U.G and E.I |
| 11/6 | 285-94 | Proofs in Predicate Logic |
| 11/8 | Review | Open |
| 11/11 | Review | **MIDTERM 2** |
| 11/13 | 313-26 | Relational Predicate Logic |
| 11/15 | 327-335 | Symbolizing Complex Sentences |
| 11/18 | 341-9 | Proofs in Relational Predicate Logic |
| 11/20 | 349-353 | Invalidity in Relational Predicate Logic |
| 11/22 | 355-61 | Intro to Identity and Definite Descriptions; “Only” Statements, Superlatives |
| 11/25 | 361-6 | Numerical Statements and Definite Descriptions |
| **Thanksgiving Recess** | | |
| 12/2 | TBD | Semantic Tests Using Models |
| 12/4 | 371-9 | Proofs Involving Identities |
| 12/6 | None | Proof Strategies |
| 12/9 | Review | Open |
| 12/11 | Review | Open |
| 12/13 | Review | **FINAL** (in class) |

**Attendance**

Attendance in discussion sections is optional but highly encouraged. In order to do well on the problem sets and exams, you will need to not only understand the material presented in lecture and in your textbook, you will also need to master a variety of challenging skill-sets. Actively participating in your discussion sections will give you the practice necessary to develop these skill-sets.

You may feel that you have already mastered the relevant skills prior to attending discussion section. However, make sure that you are not mistaking the ability to understand every step of a proof being performed by someone else with the ability to perform such a proof oneself. An expert judge of gymnastics is not thereby an expert gymnast!

**Problem Sets**

There will be roughly six problem sets assigned throughout the course. These will primarily consist of a series of exercises to be completed at home and submitted in class. You will be allowed to work in groups of up to three, though each member of a group must submit his or her own assignment. Each member must also be actively involved in the completion of the assignment such that he or she would be able to explain the answers submitted by the group if so requested by either Jared or myself.

Roughly 20% of each problem set will consist of one or more exercises that will be completed in class prior to turning in the assignment. These in-class exercises will not be available in advance and they will need to be completed individually.

*Late work*: All homework must be submitted in class on the day it is due. If there is an emergency preventing you from submitting an assignment on time, you must email Jared *before* class and you will be granted an extension if and only if you receive an email from Jared granting you one. Otherwise, no late assignments will be accepted.

**Computer Use and Classroom Etiquette**

We ask that you refrain from using computers during class for two general reasons: first, much of the note-taking in the course will involve writing out logical proofs which, given the technical symbols we will be employing, is best done by hand; second, although many and perhaps most of the students who use computers in class do not use them to surf the internet or play games, enough of them do to create a significant distraction for the other students in the classroom.

Apart from this, there are a few points about classroom etiquette which should be quite obvious. During class you may not sleep, eat, read, use a cellphone, have personal conversations, or disrupt class in any other way.

**Cheating**

Although I do not expect this to be a problem, cheating will not be tolerated. The consequences will be decided individually, but they will at least include receiving a “zero” for the work in question and may lead to a failing grade for the course, disciplinary probation, suspension, or expulsion.

If you are thinking about cheating, you should take the following into consideration: 1) given the nature of our exams and assignments, cheating will usually not increase your score by a significant margin; 2) cheaters are regularly caught by instructors or anonymously reported by their peers. It may not seem that this is the case because the disciplinary process that follows is strictly confidential; 3) the consequences of being caught cheating are always far more severe than the consequences of receiving a poor grade on an assignment; 4) if you feel overwhelmed by the course, Jared and I are here to help! Just stop by our office hours.

**McBurney Resource Center**

If you require any special accommodations, we will be happy to fulfill your request upon receiving the appropriate documentation from the McBurney Resource Center. Please make these arrangements as early in the course as possible. For more information, see <http://www.mcburney.wisc.edu/>