Spring 2018

Symbolic Logic

Philosophy 322—001

Class Time: 2:00pm—3:15pm

Monday, Wednesday

CCC 205

**Instructor:**

Charles Joshua Horn, Ph.D.

Joshua.Horn@uwsp.edu

Office Location: CCC 418

Office Phone: (715) 346-2849

Office Hours: MW, 1:00pm—2:00pm

**Course Description:**

This is an introductory level course in symbolic logic. Contrary to what might be popular belief, there is an objective way to determine whether arguments are good and bad. In this course we will study the ways in which philosophers construct and analyze arguments by learning about what makes these arguments good and bad. Specifically, we will work on translating arguments in ordinary language to symbolic form, modeling these arguments, testing them for validity, and proving them. We will spend most of our time with basic propositional logic and end the course with first-order predicate logic.

**Text:**

Rental:

1. Logic Primer 2nd Ed., Collin Allen, Michael Hand

MIT Press

ISBN: 978-0262511261

1. Dona Warren Handouts

Provided in “Content” Tab on D2L

**Course Goals:**

By carefully studying the nature of argumentation, students will learn how to construct and criticize logically valid and sound arguments. Such skills are instrumental in learning to analytically engage complex material, read closely, argue persuasively, and communicate effectively.

**Expectations:**

Students are expected to attend every class and remain for the entire time. Do not come late or leave early. Students must complete the necessary readings prior to class and be prepared for discussion and participation. Students will treat other students with respect. This means, turning off all electrical equipment, including cell phones, laptops, and tablets. Students must also address their peers in a respectful tone. It is important to note that the nature of this class will inevitably result in disagreements among colleagues; however, it is essential to maintain respect toward one another despite disagreement.

Additionally, this course will utilize the Desire2Learn online system to facilitate certain aspects of the class. It is required that you check in with D2L regularly to find class updates, submit work, check grades, etc.

**Grading Criteria:**

Grading will be based on the following: (1) *Three exams* worth 20% each (60% total) and (2) *Eight quizzes* worth 5% each (40% total).

Regular attendance is *highly* recommended in this class, but there is no attendance policy. However, if you have two or fewer unexcused absences over the course of the semester, I will add 5% to your overall grade as a bonus at the end of the semester. Please note that attendance is taken at the beginning of class, NOT throughout the entire class; so, if you show up late, you will not be counted as present for the day.

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| **A Range (90—100%)** | **B Range** **(80—89%)** | **C Range** **(70—79%)** | **D Range** **(64—69%)** | **F Range** **(0—63%)** |
|  | B+ (87—89) | C+ (77—79) | D+ (67—69) | F (<63) |
| A (94—100) | B (84—86) | C (74—76) | D (64—66) |  |
| A- (90—93) | B- (80—83) | C- (70—73) |  |  |

**Academic Integrity:**

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/or dismissal from the University. Additional information can be found at:

<http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf>

**Disability Information:**

Students with disabilities should register with the ADA coordinator on campus and let me know at the beginning of the semester. I would be happy to accommodate you in any way that I can. Just let me know. More information can be found at:

<http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/ADA/rightsADAPolicyInfo.pdf>

**Course Schedule:**

January 22 Syllabus/Course Introduction

**Unit I: Testing for Validity**

January 24 Introduction to Symbolic Logic AH, 1.1—1.4

January 29 Truth Tables—Sentences, Sequents AH, 2.1-2.2

January 31 Truth Tables—Tautologies AH, 2.3

February 5 Truth Tables—Indirect Truth Tables AH, 2.4

February 7 Exam I

**Unit II: Propositional Logic**

February 12 Conditionals Warren, Ch. 1

February 14 Conditionals Warren, Ch. 1

February 19 Conjunctions and Biconditionals Warren, Ch. 2

February 21 Conjunctions and Biconditionals Warren, Ch. 2

February 26 Conditionals Again Warren, Ch. 3

February 28 No Class

March 5 Conditionals Again Warren, Ch. 3

March 7 Negation Warren, Ch. 4

March 12 Negation Warren, Ch. 4

March 14 Disjunction Warren, Ch. 5

March 19 Disjunction Warren, Ch. 5

March 21 Exam II

March 26 No Class—Spring Break

March 28 No Class—Spring Break

**Unit III: Proving Valid Arguments**

April 2 Natural Deduction: WFF, Scope and Subordination AH, p. 6-9

April 4 Natural Deduction: Primitive Rules AH, 1.4

April 9 Natural Deduction: Primitive Rules (RAA and 🡪I) AH, 1.4

April 11 Natural Deduction: Proofs AH, 1.5.1

April 16 Natural Deduction: Proofs AH, 1.5.1

April 18 Natural Deduction: Substitution Instances and Derived Rules AH, p.31-34

April 23 Natural Deduction: Theorems AH, 1.6

April 25 Review

April 30 Exam III

**Unit IV: Logic of Quantification**

May 2 Predicate Logic Warren, Ch. 7

May 7 Predicate Logic Warren, Ch. 8

May 9 Predicate Logic Warren, Ch. 9

By the way, if you find that this class speaks to you and are interested in adding Philosophy as a major or minor, then please come and talk to me in my office. Studying philosophy is one *excellent* way to prepare for graduate school or law school and, when paired with another major or minor, has a tendency to significantly increase performance in other classes too.