

THE UNIVERSITY OF WESTERN ONTARIO
DEPARTMENT OF PHILOSOPHY
Undergraduate Course Outline 2017-18

Philosophy 2020: Basic Logic

Fall/Winter Terms 2017-18
MW 10.30-11.30
VAC100

Instructor: Professor John L. Bell
St H 4130, Office hours: MW 11.30-12.30
jbell@uwo.ca

ANTIREQUISITE

Philosophy 2250, 2252W/X, 2254 (Huron) Computer Science 2209A/B.

DESCRIPTION This course is a two-semester introduction to logic. Topics to be covered will include:

I. PROPOSITIONAL LOGIC

1. Statements, Inferences and Counterexamples
2. Truth Tables and Testing Validity
3. Tautologies, Contradictions and Satisfiability

II. EQUIVALENCE

1. Equivalence and Bi-implication
2. Expressive Completeness
3. Arithmetical Representation of Statements and Logical Operations
4. Venn Diagrams

III. TRUTH TREES

1. Introduction to Truth Trees
2. The Tree Rules
3. Tree Test for Validity
4. Further Applications of the Tree Method
5. Correctness and Adequacy of the Tree Method

IV. NATURAL DEDUCTION FOR PROPOSITIONAL LOGIC

1. Natural Deduction
2. Indirect Deduction

V. QUANTIFICATIONAL LOGIC

1. Predicates, Relations and Quantifiers
2. Tree Rules for Quantifiers
3. Identity
4. Validity and Interpretations

VI. EVIDENTIAL (INTUITIONISTIC) LOGIC

1. Evidential logic and evidential tree rules.
2. Interpretations of evidential statements

TEXTS

Course notes: *Basic Logic*, by John L. Bell. Available for purchase at bookstore.

OBJECTIVES

The principal objective of this course is to provide students with a thorough grounding in classical propositional and quantificational logic, Particular emphasis will be placed on the use of truth trees for establishing validity of inferences. A secondary objective is to acquaint students with the fundamentals of an important non-classical system of logic: evidential (intuitionistic) logic.

REQUIREMENTS

First semester: 3 one-hour in-class tests

Second semester: 3 one-hour in-class tests

Two-hour final examination.

Each test worth 10%, final examination 40% of final grade.

AUDIT

Students wishing to audit the course should consult with the instructor prior to or during the first week of classes.

DEPARTMENT OF PHILOSOPHY POLICIES

The **Department of Philosophy Policies** which govern the conduct, standards, and expectations for student participation in Philosophy courses is available in the Undergraduate section of the Department of Philosophy website at <http://uwo.ca/philosophy/undergraduate/policies.html>.

It is your responsibility to understand the policies set out by the Senate and the Department of Philosophy, and thus ignorance of these policies cannot be used as grounds of appeal.

ACCOMMODATION

Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department. Documentation shall be submitted, as soon as possible, to the Office of the Dean of the student's Faculty of registration, together with a request for relief specifying the nature of the accommodation being requested. The UWO Policy on Accommodation for Medical Illness and further information regarding this policy can be found at

http://uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

ACADEMIC OFFENCES

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

PLAGIARISM CHECKING

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com <http://www.turnitin.com>.

SUPPORT SERVICES

Registrar Services <http://www.registrar.uwo.ca>

Student Support Services <https://student.uwo.ca/psp/heprdweb/?cmd=login>

Services provided by the USC <http://westernusc.ca/services/>

Student Development Centre <http://www.sdc.uwo.ca/>

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help. Immediate help in the event of a crisis can be had by phoning 519.661.3030 (during class hours) or 519.433.2023 after class hours and on weekends.