Bergen Community College
Division of Arts & Humanities
Department of Philosophy & Religion

Course Syllabus

PHR-203 Intermediate Logic

Basic Information about Course and Instructor

Semester and year:
Course Number:
Meeting Times and Locations:

Instructor:
Office Location:
Phone:
Departmental Secretary: [optional]
Office Hours:
Email Address:

Course Description

PHR-203 Intermediate Logic is a second-level course in logic for those students who are interested in studying advanced systems of logic and their philosophical foundations. Topics covered include the nature of formal deductive systems; sentential logic (advanced problems and methods); predicate logic and quantification theory; and issues in the philosophy of logic.
Prerequisite: PHR-103 or MAT-130
3 lectures, 3 credits
General Education Course – Humanities Elective

Student Learning Objectives: As a result of meeting the requirements in this course, students will be able to

1. identify and summarize the basic problems, principles, and techniques of first-order predicate logic;
2. translate ordinary language sentences into symbolic language;
3. formulate and evaluate the validity of deductive arguments that require logical techniques more powerful than those of sentential logic; and
4. summarize foundational concepts of the philosophy of logic such as the distinction between syntax and semantics, mathematical induction, elementary model theory, and proofs of consistency and completeness.

In pursuit of the above objectives, the course is based on a standard introductory logic text; techniques of scholarly research and writing are reviewed; students are given the opportunity and are encouraged to participate actively in class discussions; and students are required to do a substantial amount of expository and critical writing in response to the material present in the course.

The Student Learning Objectives (SLOs) in this course are intended to be aligned with as many of the college's Core Competencies and General Education Goals as possible. They are also correlated with the overall Learning Goals of the Philosophy Program. In addition, student progress in reaching the course's SLOs is to be assessed through a variety of assessment types (tools) and on the basis of a variety of assessment criteria. These alignments and correlations are depicted in the attached document. [Back to course listing]

Course Content

PHR-203 is the second course in a two semester sequence in logic. Its primary content is a thorough study of first-order predicate logic and quantification theory as well as an introduction to some of the foundational concepts of the philosophy of logic. In organizing course content, instructors should keep in mind that students may have entered PHR-203 by successfully completing either PHR-103 Basic Logic or MA130 Introduction to the Mathematical Sciences. In PHR-103, instructors cover a complete system of sentential logic. However, it is unlikely that students coming from MA130 will be familiar with the techniques of sentential logic for demonstrating validity. Consequently, PHR-203 should begin with a thorough review of sentential logic with emphasis upon the concept of validity. PHR-203 Intermediate Logic uses truth trees as the preferred method of establishing validity of symbolic arguments. Issues in inductive logic may also be addressed.

Special Features of the Course (if any) [to be designated by the instructor]

E.g., the use of learning technologies in the course (Internet, PowerPoint, etc.); the inclusion of technological literacy and/or information literacy learning in the course; etc.

Recommended Course Texts and/or Other Study Materials

The most recent editions of any of the following:

Gustafson and Ulrich, *Elementary Symbolic Logic* (Waveland).
Frank R. Harrison III, *Logic and Rational Thought* (West Publishing).
Hurley, Patrick J., *A Concise Introduction to Logic.* (Wadsworth/Thomson Learning).
Howard Kahane and Paul Tidman, *Logic and Philosophy: A Modern Introduction* (Wadsworth/Thomson
        Learning).
Virginia Klenk, *Understanding Symbolic Logic* (Prentice Hall).
Teller, Paul, *A Modern Formal Logic Primer* (Prentice-Hall).
Robert P. McArthur, *From Logic to Computing* (Wadsworth/Thomson Learning).

There are software packages available for some of these texts. Although the policy of the BCC Philosophy and Religion faculty does not require the use of software packages, instructors are encouraged to consider them.

Writing and Critical Thinking Requirement(s)

Because PHR-203 is a General Education course, it requires students to complete a variety of critical thinking and writing assignments. These assignments may include class discussions and debates requiring the application of critical thinking skills, short in-class essays, out-of-class writing projects (journals, research papers, argument-analysis papers, book reviews, etc.), tests and examinations

containing essay components, and so forth. Instructors will respond to and comment on students' writing in detail. (<u>See also statement on grading policy, below.</u>)

Grading Policy

Students' final grades for this course will be based primarily on their <u>performance</u> on the required work for the course (examinations, homework, writing assignments, journals, class presentations, etc.). Students' grades will <u>not</u> be based exclusively on "objective" or "short answer" quizzes or examinations. Major examinations <u>must</u> include some essay questions which require students to demonstrate understanding of certain techniques and concepts. Students' <u>class participation</u> may also be evaluated and the grade used as one factor in determining final averages; however, class participation may count for no more than fifteen percent (15%) of a student's final course grade.

Attendance Policy

BCC Attendance Policy:

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Philosophy and Religion Departmental Attendance Policy:

Students are expected to attend class regularly and punctually. Attendance will be taken at each class session. It is expected that class will be conducted such that students will benefit in their written work by the lectures and class discussion. If students occasionally arrive late, they should be encouraged to enter quietly, not disturbing the class. If students miss class, they should be encouraged to use the course calendar to stay abreast of material. It is probably a good idea for students to find study partners and to exchange telephone numbers. Make-ups for examinations should be allowed by the instructor if, in the instructor's judgment, the student has presented a good excuse for missing the work. Instructors may penalize work which is late; however, the instructor's policies for make-ups and late work must be clearly specified on the student guide.

Attendance Policy in this Course:

[To be designated by the instructor]

Other College, Divisional, and/or Departmental Policy Statements [optional but recommended]

<u>Examples:</u>
Statement on plagiarism and/or academic dishonesty.
ADA statement.
Sexual Harassment statement.
Statement on acceptable use of BCC technology.
Statement on the purpose and value of faculty office hours.

Student and Faculty Support Services [optional but recommended]

List support services, e.g., the Writing Center, the Math Lab, the Tutorial Center, Online Writing Lab (OWL), Office of Specialized Services, etc. Include information on the BCC Library.

<u>Example:</u>   [see next page]

Student and Faculty Support Services

The Distance Learning Office – for any problems you may have accessing your online courses	Room C-334	201-612-5581 psimms@bergen.edu
Smarthinking Tutorial Service	On Line at:	www.bergen.edu/library/learning/tutor/smart/index.asp
The Tutoring Center	Room S-118	201-447-7908
The Technology Assisted Learning Lab (Math and English)	Room C-110	201-447-7988
The Writing Center	Room C-110	201-447-7136
The Online Writing Lab (OWL)		www.bergen.edu/owl
The Office of Specialized Services (for Students with Disabilities)	Room S-153	201-612-5270
The Sidney Silverman Library – Reference Desk	Room L-226	201-447-7436

Include the following statement on Logos – The BCC Philosophy Club

Logos – The BCC Philosophy Club

Logos usually meets on Tuesdays during the Activities Period, 12:30-1:25 PM, in Room L-342. I encourage you to join the club. Since you are interested in the study of philosophy, you should find the meetings and other activities of the philosophy club very interesting. For further information, check the Philosophy & Religion bulletin board adjacent to Room L-325A or contact LOGOS Advisor, Dr. Vanda Bozicevic (L-331, 201-493-7528, vbozicevic@bergen.edu). (LOGOS does not hold regular meetings during the summer.)

Include a Course Outline and Calendar [can be combined in a single syllabus section]

The Course Outline and Calendar must include all of the following elements:
- A daily or (at least) weekly schedule of topics to be covered.
- Dates for exams, quizzes, or other means of assessment. (This does not mean that all evaluation of students must be in groups and at the same time. Exams and other means of assessment can be listed as "to be scheduled individually.")
- Due dates for major assignments – e.g., when is a paper due; if the topic has to be approved, when; if an outline or draft is an interim step, when it is due.
- Any required special events must be included in the outline/calendar, e.g., a lecture by a visiting speaker, a dramatic or musical performance, a field trip.
- Designation of Student Learning Objectives – by number – for each topic (see sample below).
- A note to students stating that the course outline and calendar is tentative and subject to change, depending upon the progress of the class.

Sample Format for Course Outline and Calendar

Note to Students: The following Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.

Week(s)	Date(s)	Topic/Activity	Learning Objectives	Assignments/Events
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

SAMPLE COURSE OUTLINE
(Topics covered)

Note: This section of the departmental syllabus is under revision in order to bring it into conformity with the (relatively new) BCC policy on the layout and content of syllabi for general education courses.

I.   Introduction: Basic Logic and Intermediate Logic--their relationship.

II.   Review of Propositional Logic (truth functions, truth tables, truth trees, formal proof method, etc.).

III.   Predicate Logic.

IV.   Other systems of logic (modal, deontic, epistemic, etc.); Polish Notation; etc.

V.   Philosophical problems in logic.

VI.   Summary and conclusion(s).