COURSE OUTLINE

Course Number: PHI-113  Course Title: Logic  Credits: 3

Course Length: 15 Weeks  Co- or Pre-requisite: None  Implementation sem/year: Spring 2014

Catalogue description: An introduction to the principles and methods of correct reasoning. A problem-solving approach to the nature and scope of different kinds of logic, identifying and evaluating arguments and fallacies, and crafting well-formed arguments. 3 lecture hours

Is course New, Revised, or Modified? [Modified courses are those which have a new prefix or course number]: Revised

Required texts/other materials:

- Logic Self-Taught: A Workbook by Katarzyna Paprzycka,
  http://kpaprzycka.wikidot.com/logic
- Handouts and Websites as directed

Recommended Texts:


Information Sources:

- http://www.earlham.edu/~peters/courses/log/loghome.htm
- http://plato.stanford.edu/entries/aristotle-logic/
- http://plato.stanford.edu/entries/logic-inductive/
- http://pioneer.netserv.chula.ac.th/~hsoraj/web/APPEND.html
- http://www.formalontology.it/indian-philosophy.htm
- Internet Encyclopedia of Philosophy: http://www.utm.edu/research/iep
Optional materials: Copies of additional materials not contained in digital or handout libraries to be supplied by/to the philosophy coordinator prior to the beginning of any term of instruction. Other materials per the section instructor.

Revision date: 1/15/14 Course Coordinator: Ken Howarth, 609-570-3809, howarthk@mccc.edu LA-119
http://www.mccc.edu/~howarthk/MainPage.htm, Philosophy Bulletin Board between rooms LA-124 and LA-125 on the first floor of the Liberal Arts Building

Additional resources: The College library’s text and NetLibrary and ebrary electronic resources, accessible through http://www.mccc.edu/student_library.shtml, as well as the Library Resource page (under development) provide a wide range of philosophical reference and topic specific texts. The Philosophy Repository on the College online course platform, Angel, contains specific auxiliary readings accessible for all sections that utilize Angel as at least a ‘shell’ resource for even classroom-based sections. A library of targeted readings handouts is also available in the Coordinator’s office.

Learning Center Resources: There are no tutors or study groups through the Learning Center for philosophy topics, though there are tutors for writing. There are limited volunteers in the Philosophy S.P.A. Club available for peer-to-peer tutoring, and Professor Howarth is available to meet with students for tutoring to augment students meeting with their class professors.

Course Competencies / Goals:
If the student does the work assigned for this course, s/he will be able to:

1. Basic logical technical language and the role of form, including validity and its connection with truth;
2. Informal logical argument analysis, including familiarity with standard fallacies
3. Understand the idea and basic practices of logical proofs, including syllogisms
4. Construct truth tables and employ natural deduction techniques using basic derivation rules;
5. Apply logical techniques to translate and evaluate arguments in English and basic logical Notation

Course-specific General Education Knowledge Goals and Core Skills.

General Education Knowledge Goals for this course:

Goal 1. Communication. Students will communicate effectively in both speech and writing.

Goal 6. Humanities. Students will analyze works in the fields of art, music, or theater; literature; philosophy and/or religious studies; and/or will gain competence in the use of a foreign language.

MCCC Core Skills for this course:
Goal A. Written and Oral Communication in English. Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.

Goal B. Critical Thinking and Problem-solving. Students will use critical thinking and problem solving skills in analyzing information.

Units of study in detail

The general plan for this course involves some detailed examination of key theoretical ethics approaches from ancient philosophy up through contemporary philosophical and scientific ethical theories. A key consideration is for students to learn to frame moral arguments in “sets of terms”, or theoretical frameworks, becoming aware of them and the differences between them, especially in application.

Units in Summary

Unit 1 – Building Blocks of Reasoning
Unit 2 – Traditional Logic
Unit 3 – Informal and Inductive Logic
Unit 4 – Formal, Symbolic Logic

Units in Detail:

Unit One: Building Blocks of Reasoning

Learning Objectives - The student will be able to...

- Identify reasons for studying logic and distinguish between the major subfields of logic and their central concerns (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Explain key logical concepts such as validity, consistency, soundness, inference, inductive, deductive, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Critically relate key elements of reasoning, including truth, definitions, arguments, relevance, judgments (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)

Unit Two: Traditional Logic:

Learning Objectives - The student will be able to...

- Understand the basic elements of traditional logical systems, including historical context and applications (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Explain concepts and use techniques pertaining to standard form sentences & arguments, categorical statements, syllogisms and their attributes, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Critically relate key elements of the traditional and modern squares of opposition, basic immediate inferences, distribution of terms, paradoxes, enthymemes, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)

Unit Three: Informal and Inductive Logic:
Learning Objectives - The student will be able to...

- Understand the basic elements of informal and inductive logical systems, including historical context and applications (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Explain concepts and use techniques pertaining to different types of inductive arguments, issues of strength and cogency, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Critically distinguish between standard informal and formal fallacies, with emphasis on applications to real world articles and speeches, including application in science. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)

Unit Four: Formal, Symbolic Logic

Learning Objectives - The student will be able to...

- Understand the basic elements of formal, symbolic logic, including historical context and applications (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Explain concepts and use techniques pertaining to propositional and predicate logic, issues of validity and soundness, quantification, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)
- Critically employ translation skills, truth tables, natural deduction with emphasis on proof applications, including conditional and indirect proofs, modeling, etc. (Course Competencies 1, 2; General Education Goals 1, 6, Core Skills A,B)

Evaluation of student learning:

Citizenship: Course-long assessment of how students demonstrate logical proficiency and practice through their contributions to the class learning environment, that may include such factors as attendance, the amount and manner of class participation, helpfulness to other students’ understanding, oral presentations, doing proofs at the board, etc.

Homework: 6 or more short assignments aimed at having the student demonstrate that they did the assigned reading assignment and can address the issues covered in their own words.

Quizzes: 4 or more brief assessments to allow students to demonstrate philosophical literacy in a specific unit of instruction

Tests: 2 or more class-length assessments to allow students to demonstrate content knowledge/logical Proficiency and literacy in covered units of instruction

Essays: no more than 1 assessment to allow students to demonstrate logical literacy and practices as applied to units of instruction. Well-argued papers are the first goal here, as a demonstration of philosophical reasoning and logic. Recommend that essays are not due in class.

Course Grade Breakdown:

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<th>Percentage</th>
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<tbody>
<tr>
<td>Citizenship</td>
<td>10-15% (not more than this) (includes ‘participation/board work’)</td>
</tr>
<tr>
<td>Homework</td>
<td>10-15% (key to encouraging regular preparation)</td>
</tr>
<tr>
<td>Quizzes</td>
<td>5-15%(key to encouraging regular preparation)</td>
</tr>
<tr>
<td>Tests</td>
<td>30-60% (no one test worth more than 20%)</td>
</tr>
<tr>
<td>Essays</td>
<td>0-25% (no one paper worth more than 25%)</td>
</tr>
<tr>
<td>Course</td>
<td>100%</td>
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</tbody>
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The particular grading breakdown is to be determined by each instructor and listed clearly in her/his syllabus. Care should be taken to see that the course’s goals are assessed. It is important to “test what you teach”, while, of course, avoiding any semblance of “teaching to the test”! Aligning lesson planning and teaching to stated goals is the best way to achieve this.

**Attendance Policy:** Stated clearly and consistent with the MCCC student handbook and detailed in the instructor’s course syllabus.

**Academic Integrity Statement:** [As found @ http://mlink.mccc.edu/omb/OMB210.pdf]

MCCC OMB 210

ACADEMIC INTEGRITY POLICY

Mercer County Community College is committed to Academic Integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work, and that faculty and academic support services staff members will take reasonable precautions to prevent the opportunity for academic dishonesty. The college recognizes the following general categories of violations of Academic Integrity, with representative examples of each. Academic Integrity is violated whenever a student:

**A. Uses or obtains unauthorized assistance in any academic work.**
- copying from another student’s exam.
- using notes, books, electronic devices or other aids of any kind during an exam when prohibited.
- stealing an exam or possessing a stolen copy of an exam.

**B. Gives fraudulent assistance to another student.**
- completing a graded academic activity or taking an exam for someone else.
- giving answers to or sharing answers with another student before, during or after an exam or other graded academic activity.
- sharing answers during an exam by using a system of signals.

**C. Knowingly represents the work of others as his/her own, or represents previously completed academic work as current.**
- submitting a paper or other academic work for credit which includes words, ideas, data or creative work of others without acknowledging the source.
- using another author’s words without enclosing them in quotation marks, without paraphrasing them or without citing the source appropriately.
- presenting another individual’s work as one’s own.
- submitting the same paper or academic assignment to another class without the permission of the instructor.
- falsifying bibliographic entries.
- submitting any academic assignment which contains falsified or fabricated data or results.

**D. Inappropriately or unethically uses technological means to gain academic advantage.**
- inappropriately or unethically acquiring material via the Internet or by any other means.
- using any electronic or hidden devices for communication during an exam.

Each instructor and academic support service area is authorized to establish specific guidelines consistent with this policy.
Consequences for Violations of Academic Integrity
For a single violation, the faculty member will determine the course of action to be followed. This may include assigning a lower grade on the assignment, assigning a lower final course grade, failing the student in the course, or other penalty appropriate to the violation. In all cases, the instructor shall notify the Chair of the Academic Integrity Committee of the violation and the penalty imposed.
When two (or more) violations of academic integrity are reported on a student, the Academic Integrity Committee (AIC) may impose disciplinary penalties beyond those imposed by the course instructors. The student shall have the right to a hearing before the AIC or a designated AIC subcommittee.

Appeals
The student has a right to appeal the decision of the instructor or the Academic Integrity Committee. Judicial procedures governing violations of Academic Integrity are contained in the Student Handbook.

Approved: Board of Trustees May 19, 1983             Revised: May 18, 2000, March 18, 2004

Students with Disabilities:
Any student in this class who has special needs because of a disability is entitled to receive accommodations. Eligible students at Mercer County Community College are assured services under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. If you believe you are eligible for services, please contact Arlene Stinson, the Director of Academic Support Services at LB221, (609) 570-3525, stinsona@mccc.edu.