Title of Course: Logic

Number of credits: Lecture 3 Lab

Catalog/Course Description:
In this course students will be introduced to the basic concepts of logic including informal fallacies, categorical syllogisms, propositional logic and induction. (Meets MnTC goal area 4)

Placement for Success prerequisites: (See instruction sheet)
Prerequisite: Accuplacer score placing the student in MATH 1010 College Algebra
Reading: Level 2 English/Writing: Level 2 Math: Level 4

Recommended course materials and resources, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers. If applicable.

Relationship of proposed course to the department mission and goals
This course addresses the second goal of the philosophy department which is "to engage students in exercises that develop their critical thinking skills..."

Is this an MnTC Course (if yes, complete MnTC competency goal area(s) and documentation sheet). Yes, Goal 4: Mathematical/Logical Reasoning

Course goals:
Goal: The student will be exposed to historical and contemporary applications of logic systems.
Goal: The student will be able to clearly express logical ideas in writing.
Goal: The student will learn what constitutes a valid logical argument and proof.
Goal: The student will be able to apply higher-order problem-solving strategies.

Learning outcomes: (A minimum of one learning outcome shall be provided for each course goal)
   State a minimum of two assessment instruments for each learning outcome.

Outcome: The student will demonstrate an understanding of historical and contemporary applications of logical systems.
   Assessment: Exercises
   Assessment: Quizzes
Outcome: The student will demonstrate the ability to express logical ideas.
   Assessment: Class discussion
   Assessment: Writing assignments
Outcome: The student will be able to analyze and set-up valid logical arguments.
   Assessment: Exercises
   Assessment: Quizzes
Outcome: The student will demonstrate the ability to set up and construct a logical proof.
   Assessment: Exercises
   Assessment: Quizzes
Outcome: The student will demonstrate the ability to apply higher-order problem-solving strategies.
   Assessment: Class discussion
   Assessment: Writing assignments

Course content:
(Provide an outline of major topics covered in course)

- Basic Concepts
  Recognizing arguments
  Types of arguments

- Language
  Use of language
  Definitions and meaning

- Informal Fallacies

- Categorical Propositions
  Venn Diagrams
  Square of opposition
  Translating statements into categorical form
- Categorical Syllogisms
- Propositional Logic
  Truth tables
  Argument forms
- Methods of Deduction
  Proofs
- Predicate Logic
  Rules of inference

Placement for Success prerequisite
Check one of each area—English, reading, and math

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