A. Course Description

Credits: 4

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Symbolic logic uses formal methods in order to study the properties of arguments in a precise and rigorous manner. In this course, we learn about both the propositional calculus, which deals with the logical relations that hold among whole propositions, and the predicate calculus, a system which allows more precise analysis of linguistic structure. The course will focus on both translation of natural languages into symbolic form, and proofs using natural deduction.

B. Course Effective Dates: 08/24/2002 - 08/15/2009 08/15/2009 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Evaluate arguments given in a natural language
2. Translate natural language into the propositional calculus
3. Translate natural language into the predicate calculus
4. Construct proofs in a system of natural deduction
5. Transfer these reasoning skills to life as a student and citizen

E. Learning Outcomes (MN Transfer Curriculum)

Goal 04 - Mathematical/Logical Reasoning

1. Apply higher-order problem-solving and/or modeling strategies.
2. Clearly express mathematical/logical ideas in writing.
3. Illustrate historical and contemporary applications of mathematical/logical systems.
4. Explain what constitutes a valid mathematical/logical argument/proof.

G. Special Information

None