

**Course Objective:**

This course explores the relationship of communications and critical thinking with a focus on good reasoning and the impediments to its mastery. This course emphasizes the development of skills in logical processes including familiarity with the more common fallacies. This course is designed for students learning to apply principles of critical thinking to the practical problems of everyday life.

**Outcomes:**

After completion of course, students shall be able to:

- Understand the basics of logical thinking
- Understand the role of language and thinking processes in one's life.
- Analyze ones thinking processes logically and learn to think logically

**Contents:**

- Basic Concepts
  - Arguments, Premises, and Conclusions
  - Recognizing Arguments
  - Deduction and Induction
  - Validity, Truth, Soundness, Strength, Cogency
  - Arguments Forms: Proving Invalidity
- Language: Meaning and Definition
  - Varieties of Meaning
  - The Intension and Extension of Terms
  - Definitions and Their Purposes
- Propositional Logic
  - Symbols and Translation
  - Truth: Functions
  - Truth Tables for Propositions
  - Truth Tables for Arguments
- Natural Deduction in Propositional Logic
  - Rules of Implication
  - Rules of Replacement

- Conditional Proof
- Induction
  - Causality and Mill's Methods
- Probability
  - Statistical Reasoning
  - Hypothetical / Scientific Reasoning

## References:

- a. Hodges, Wilfrid. (2002). *Logic: An Introduction to Elementary Logic*. 2nd ed. Harmondsworth: Penguin Books.
- b. Hurley, Patrick J. (2005). *Concise Introduction to Logic* W/CD, 9 ed. Wadsworth Publishing Co., Belmont, CA.,
- c. Jason, Gary. (2001). *Critical Thinking: Developing an Effective World View*. 1 ed. Wadsworth Publishing Co., Belmont, CA.
- d. Moore, Brooke N. & Parker, Richard. (2005). *Critical Thinking*, 8 ed. McGraw-Hill.