**Logical Reasoning (EDU03509)**

BS (Special Education – 3rd Semester)

**Instructor: Waqar Hussain**

**Objectives**

After studying the course, the students will;

* improve the logical reasoning ability of the students
* make students capable to demarcate fallacious and valid arguments
* introduce to students application of logic in social sciences
* develop decision making ability based on logical reasoning, which is crucial pre-requisite for successful educators.

**Course Description**

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| **Week** | **Contents** |
| 1 | Introduction to philosophy and logic  Aristotelian logic |
| 2 | * Deductive Reasoning: Definition & Examples * Inductive reasoning: Definition & Examples * Difference between Deductive and Inductive Reasoning |
| 3 | * Common Patterns of Deductive Reasoning * Common Patterns of Inductive Reasoning |
| 4 | * Deductive validity * Inductive validity |
| 5 | * Propositions, truth values and truth table |
| 6 | * Recent developments in logic   Modal logic  Fuzzy logic  Free logic |
| 7 | * Understanding fallacies * Formal Fallacies   Bad reasons fallacy  Masked man fallacy  Fallacy of quantitative logic |
| 8 | * Informal Fallacies   Fallacy of ambiguity  Black & white fallacy  Fallacy of composition  Fallacies of appeal |
| 9 | * Basic logical concepts * Proposition and sentence * Proposition and its analysis |
| 10 | * What is an argument? * Argument & Non-argument * Well-crafted argument * Deduction and validity * Induction and probability |
| 11 | * Introduction to Symbolic logic * Translating statement and punctuation * Negation, conjunction & disjunction |
| 12 | * Practice revising the essay to improve its clarity, coherence, accuracy, cogency and logical progression |
| 13 | * Logic and Language * Common informational fallacies |
| 14 | * Self-awareness & Emotional intelligence |

**Suggested Readings**

1. Restall, G. (2006). Logic: An Introduction, Taylor & Francis Group, New York.

2. Herley, P.J. (2003). A Concise Introduction to Logic, Woods worth /Thomason Learning Incorporation, Belmont.

3. Copi, I.M. (2002) Introduction to Logic, (11th edition) Pearson Education Inc, Delhi.

4. Vaughn, L. (2005) The Power of Critical Thinking, Oxford University