

Mathematical Concepts and Quantitative Reasoning Definition for FCC Local G.E. Area 2

Mathematical Concepts and Quantitative Reasoning courses are designed to help students develop the ability to draw conclusions from numerical information, use formal reasoning processes, practice computational skills, and apply mathematical concepts or formal reasoning to solve real world problems.

Mathematical Concepts and Quantitative Reasoning courses fulfilling this requirement must be at least college-level. This includes courses in mathematics, discipline-based mathematics, logic, statistics, computer languages, and personal finances.

A majority of the course should emphasize mathematical or formal reasoning processes, and their application to problem solving. This emphasis must be apparent in the course description, lecture content outline, objectives, and CSLOs.

Approved by Curriculum Committee April, 1, 2024

Critical Thinking Definition for FCC Local G.E. Area 1B

A course in critical thinking is designed to achieve an understanding of the relationship of language to logic, which should lead to the ability to analyze, criticize, and advocate ideas, to reason inductively and deductively, and to identify the assumptions upon which particular conclusions depend. Importantly, upon successful completion of a course in critical thinking, students should have the tools and understanding needed to engage in critical self-reflection of their own thought processes.

Courses in critical thinking shall emphasize the following as major components, and this emphasis must be apparent in the course description, lecture content outline, objectives and CSLOs.

- Analysis, criticism, and generation of complex ideas
- Inductive and deductive reasoning, including methods for evaluating inductive strength and deductive validity
- Identification of common logical errors and fallacies of thought and reason
- Identification of the assumptions upon which particular conclusions depend
- Methods for distinguishing knowledge from belief and fact from fiction
- Evaluation of sources of evidence with respect to their relevance and reliability

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