Virginia Western Community College
MTH 287
Mathematical Structures

Corequisites
MTH 264 or equivalent

Course Description
Presents topics in mathematical structures of value to students majoring in computer science or other disciplines requiring programming skills. Covers logic, set theory, number theory, combinatorics, functions, relations, and graph theory.

Semester Credits: 3 **Lecture Hours: 3**

Required Materials
Textbook:
Discrete Mathematics with Applications. Epp. 4th edition. Cengage. ISBN: 9780495391326.

Other Required Materials:
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Course Outcomes

At the completion of this course, the student should be able to:

- Have a basic understanding of logic, quantifiers, set theory, and counting principles.
- Prove elementary statements using direct, indirect and induction arguments.
- Use recursively defined statements and find the corresponding explicit forms.
- Be familiar with equivalence and partial order relations.

Topical Description

Topics	Chapter
The Logic of Compound Statements	2
The Logic of Quantified Statements	3
Elementary Number Theory and Methods of Proof	4
Sequences, Mathematical Induction and Recursion	5
Set Theory	6
Counting and Probability	9
Relations	8

Notes to Instructors

None.