

# North Hennepin Community College

## MATH 1010: Survey of Mathematics

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites:

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Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Designed for the liberal arts student, this course explores the diversity of math and is focused on developing quantitative skill and reasoning ability. Topics are chosen by the instructor and may include but are not limited to: logic, problem solving, and data analysis, mathematics of social choice, geometry, financial mathematics, infinity, topology, and probability.

Prerequisites: College math placement level or successful completion of Math 0900 or 0902 or 0980 or 1031 or 1130 or 1140 with grade of "C" or better.

Please Note: If you have taken a 1000 level Math Course (or higher) from another institution, and have submitted your official transcript, please contact the Records and Registration Department in order to register for this course.

### B. COURSE EFFECTIVE DATES: 08/27/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Topics may include (but are not limited to) college-level explorations of:
  - Networks and Scheduling (Graph Theory)
  - Logic and Set Theory
  - Data Analysis (collecting & describing data)
  - Measurement (Geometry and Topology)
  - Number Theory
  - Probability
  - Mathematics of Social Choice (voting, decision-making)
  - History of Mathematics
  - Financial Mathematics
  - Problem-Solving
  - Infinity

#### **D. LEARNING OUTCOMES (General)**

1. Demonstrate increased or improved quantitative literacy (MnTC Goal 4: a, b, d; Goal 2: a, b, c, d); NHCC ELOs 1, 2
2. Recognize mathematics as an intellectual exercise and a way of thinking (G4 a, b; G2 b, c); NHCC ELOs 1, 3
3. Discover and contemplate the visual and intellectual beauty of mathematics (G4 a, b; G2 b, c); NHCC ELO 1
4. Solve problems using college-level algebra and logical reasoning skills (G4 a, b, d; G2 a, b, c, d); NHCC ELOs 1, 2
5. Clearly explain the process by which they arrived at their solutions (G4 b, c, d; G2 d); NHCC ELOs 1, 2

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Apply higher-order problem-solving and/or modeling strategies.

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

1. Knowledge of Human Cultures and the Physical and Natural World--Through study in the sciences, mathematics, social sciences, humanities, histories, languages, the arts, technology and professions.
2. Intellectual and Practical Skills--Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.