Math 120 Quantitative Literacy

Credit Hours: 3
Scheduled hours per week
  Lecture: 3
  Lab: 0
  Other: 0

Catalog Course Description: A mathematics survey course. Topics will include logic, problem solving, quantitative information in everyday life, probability, statistics, and mathematical modeling.

Pre-requisites: Students must score 19 or above on ACT or score 3 or above on the High School Summative Exam to enroll in this course.

Co-requisites: Students who score below 19 on ACT or score a 1 or 2 on the High School Summative Exam must take the co-requisite course Math 120E.

Course Learning Outcomes:
A. Students will demonstrate the ability to use multiple problem solving techniques.
B. Students will demonstrate understanding of fundamental logic principles.
C. Students will demonstrate the ability to understand quantitative information in everyday situations.
D. Students will demonstrate understanding of mathematics of finances.
E. Students will demonstrate understanding of counting principles and probability.
F. Students will demonstrate understanding of basic statistic concepts.
G. Students will demonstrate ability to build mathematical models.

Topics to be studied:
- mathematical modeling and problem solving
- probability – odds for and against, law of large numbers, and counting techniques
- sets – notation, operations, Venn diagrams
- propositions and truth tables
- fractions
- percentages
- histograms, bar graphs, pie charts
- measures of central tendency
- measures of dispersion
- normal distribution
- managing money – compound interest and personal finances
- scientific notation
- correlation and causality
- U.S. customary and Metric system and conversions between the two
- basics of Euclidean geometry – point, line, plane, angle, polygons, polyhedrons
- perimeter, area, and volume
- problem solving using geometry
Relationship of Course to Program or Discipline Learning Outcomes:
(What program outcomes are being met by this course? For general education courses, a listing of the general education competencies that are met.)

### Relationship of Course to Mathematics (MATH) Student Learning Outcomes:

| Demonstrate understanding of the language of mathematics, by their use of symbols, definitions, word phrases, and representations. | x |
| Display proficiency in mathematical computations. | x |
| Implement mathematical techniques to solve applied problems. | x |
| Employ appropriate technology to demonstrate knowledge of mathematical concepts. | x |
| Exhibit mastery of core course competencies. | x |

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### Relationship of Course to General Education Learning Outcomes:

| Composition and Rhetoric | Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements. |
| Science & Technology | Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions. |
| Mathematics & Quantitative Skills | Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts. | x |
| Society, Diversity, & Connections | Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication. |
| Human Inquiry & the Past | Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills. |
| The Arts & Creativity | Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art. |

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**Special requirements of the course:** None

**Additional information:** None

**Prepared by:** Katie Life

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