Northwest Arkansas Community College
(Science and Mathematics Division)

Discipline Code
MATH

Course Number
1313

Course Title
Quantitative Reasoning

Catalog Description
(F, S, SUM) This course develops reasoning skills using quantitative information and the effective use of mathematical tools and models as productive citizens and employees in our contemporary data-rich and technology-dependent society. Topics are selected from finance, statistics and probability, function and modeling, and quantities and measurement. Co-requisite- MATH 0012. Prerequisite- MATH 0053 with a grade of C or better, or appropriate placement Scores

Prerequisites
Co-requisite- MATH 0012. Prerequisite- MATH 0053 with a grade of C or better, or appropriate placement Scores

Credit Hours
3 credit hours

Contact hours
3

Load hours
3

Semesters Offered
Fall, Spring & Summer

ACTS Equivalent
MATH 1113 – Quantitative Literacy/Mathematical Reasoning

Grade Mode
A-F

Learning Outcomes
Upon Successful completion of this course students should exhibit mastery of certain knowledge and basic skills. These skills include, but are not limited to:
1. The student will analyze information using elements of logic.

2. The student will solve problems using quantities, measurement, and geometry.
3. The student will apply concepts of percentages, personal finance and state and national finance in real life contexts.
4. The student will interpret and create statistical tables and graphs.
5. The student will calculate and assess measures of central tendency and dispersion.
6. The student will use probability to analyze real life events.
7. The student will apply linear and exponential modeling to natural processes.
8. The student will analyze current resources and complete real-world applications and projects using skills learned in outcomes 1-7 and communicate the results.

General Education Outcomes Supported
- Students can achieve mathematical literacy.

Standard Practices
Topics list
Include at least three of the four areas of study listed below.
- Personal, state and national finance
- Statistics and probability
- Mathematical modeling
- Quantities and measurement

Learning activities
- Content and its presentation will be based in the context of everyday life and selected for its usefulness to the students and their current and future needs for mathematical skills.
- Assignments should include interpreting written materials containing quantitative information and communicating results in writing.
- Basic mathematical processes should be integrated into student work so that essential understandings and skills are developed or reinforced throughout the course.
- Problem solving strategies should be stressed, and students should engage in mathematical thinking to develop solutions to non-routine problems, sometimes struggling productively to encourage perseverance.
- Students should have access to appropriate technology.

Assessments
Each instructor must include a set of 6 departmental final exam questions on his or her final exam. These questions will be in direct support of the specific Course Outcomes and will be based on material covered in the Required Text Coverage section, and be similar to questions on the Department Review Sheet for Quantitative Reasoning. The questions will be graded using a departmental grading rubric utilizing a 10-point scale per question. The results of these questions and overall student performance will be reported when final grades are turned in. ***Please note that the only resource other than a calculator allowed for use by students during the final exam will be departmental formula sheet. It is also a departmental policy that no TI-89 or TI-92 or comparable calculators be allowed for use during the final exam.***

Grading guidelines
- At least 70% of the grade should come from proctored work.