COURSE OUTLINE: MTH165 - NUM/QUANT REASONING

Prepared: Mathematics Department
Approved: Karen Hudson, Dean, Community Services and Interdisciplinary Studies

Course Code: Title	MTH165: NUMERACY AND QUANTITATIVE REASONING
Program Number: Name	5212: ADVENTURE RECREATION 5220: NAT ENVIRONMENT TN
Department:	MATHEMATICS
Academic Year:	2024-2025
Course Description:	This course focuses on developing the student`s number sense and problem-solving abilities using a variety of tools and strategies that include computer technology. Skills required to perform mental calculations and communicate mathematical concepts and processes will be emphasized and assessed. By the end of the course, the student will be able to interpret mathematical models, represent quantitative information in a variety of ways and use different mathematical and statistical methods to solve problems. Topics include number sense, geometry, measurement, trigonometry, percent and descriptive statistics.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Substitutes:	MTH125, MTH142, MTH170, OEL806
Essential Employability Skills (EES) addressed in this course:	EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 10 Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Books and Required Resources:	See Instructor for Course Materials Calculator-SharpEL-520XTB (available in the bookstore)

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Perform calculations accurately with and without technology.	1.1 Use computer technology, throughout the semester, to improve mental mathematical skills and speed. 1.2 Use estimation to check and determine the reasonableness

	of answers, round values appropriately as required. 1.3 Use appropriately as a problem solving tool.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Solve problems involving mathematics.	2.1 Exhibit perseverance, ability, and confidence to use mathematics to solve problems. 2.2 Use a variety of problem-solving strategies and exhibit logical thinking. 2.3 Work effectively with others to solve problems. 2.4 Estimate and check answers to problems and determine the reasonableness of results. 2.5 Communicate findings both in writing and orally using appropriate mathematical language and symbolism.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Measure and work with measurements.	3.1 Use Metric, Imperial, and U.S. customary system of measurement. 3.2 Convert between systems of measurement. 3.3 Work with measures of length, area, volume, currency, etc. 3.4 Make reasonable estimations of the measure of various items. 3.5 Measure various items using the appropriate methods and devices.
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Solve problems involving angles and plane geometry.	4.1 Measure of angles and angle relationships. 4.2 Angles formed by intersecting lines, perpendicular lines, parallel lines, complementary angles, supplementary angles, corresponding angles, alternate angles, sum of angles in polygons. 4.3 Right triangles and the Pythagorean Theorem. 4.4 Calculate the perimeter and area of regular and irregular plane geometric shapes, i.e. rectangle, square, parallelogram, rhombus, trapezoid, triangle, circle, semi-circle, and composite shapes. 4.5 Applications of plane geometry, directions and bearings.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Communicate quantitative information by using a variety of descriptive statistic processes.	5.1 Recognize the value of statistical information in a variety of environments. 5.2 Collect, collate, analyze, and interpret data for a variety of purposes. 5.3 Derive meaningful information from statistical data. 5.4 Present and interpret data in such a manner that it is understood by and is meaningful to colleagues, peers, and clients. 5.5 Construct a variety of charts, such as histograms, bar graphs, circle graphs, and scatter plots. 5.6 Use Microsoft Excel to collate and analyze data, and to create charts, graphs, and calculate statistical information. 5.7 Become critical of the statistical information portrayed in the media, work, and educational environments.

	5.8 Calculate the mean, median, and mode, as appropriate. 5.9 Calculate measures of variation (min, max, range, variance, standard deviation). 5.10 Construct confidence intervals and determine appropriate sample sizes. 5.11 Make practical application of the normal distribution.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Culminating Activity	10%
Summative Assessments	20%
Tests	70%

Date: August 26, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.