SOUTHEAST COMMUNITY COLLEGE
DIVISION OF ARTS AND SCIENCES
Mathematics
Revision Date: 05-23-22
Syllabus Statements

I. CATALOG DESCRIPTION

Course Number:	MATH2030
Course Title:	Contemporary Mathematics
Prerequisite(s):	A grade of "C" or higher in MATH1100, or a grade of "B" or higher in MATH1103 and one year geometry or equivalent, or appropriate score on math placement test.
Catalog Description:	Applications of quantitative reasoning and methods to problems and decision making in the areas of management, statistics, social choice, and size and growth. Topics include networks, critical paths, sampling, central tendency, inference, voting methods, power indices, fair division, growth and form, symmetry and patterns, and tiling.
Credit Hours:	3.0
Class Hours:	45
Lab Hours:	0
Total Contact Hours:	45

II. COURSE OBJECTIVES: *Course will:*

A. Bring the excitement of contemporary mathematical thinking to the student.

B. Help students think logically and critically about the mathematical information that abounds in our society.

C. Familiarize the student with a variety of mathematical concepts and processes in contemporary settings.

D. Develop an appreciation of mathematics as a discipline and an exposure to the subtlety and variety of mathematical applications and solutions.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. Student Learning Outcomes**:** *Student will be able to:*

1. Better understand how topics of mathematics impact decisions made by business leaders, public officials, and others with whom we interact in public life.

2. Be aware of the value of mathematics in areas not commonly recognized as mathematical, such as scheduling, apportionment, voting, and fair division.

B. General Education Learning Outcomes

1. GELO #3: Critical Thinking & Problem Solving
Outcome: Collect, identify, interpret and analyze data.
Outcome: Synthesize information to arrive at reasoned solutions to problems.
Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.

2. GELO #6: Career and Life Skills
Outcome: Employ effective interpersonal and intrapersonal communication skills.
Outcome: Use digital technology effectively to access, manage, integrate, evaluate, and present information.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

Topics from Management Science:

A. Graphs, Circuits, Euler and Hamiltonian circuits

B. Spanning trees
C. Scheduling tasks
Topics from Statistics:
D. Sampling techniques
E. Descriptive Statistics
F. Measures of Central Tendency, mean, median, mode
G. Measures of Variation, range, standard deviation, variance
H. Probability
I. Counting techniques, fundamental counting principle, permutations and combinations
J. Probability distributions
K. Normal distribution, Empirical Rule
L. Statistical Inference, estimation and confidence intervals
Topics from Social Choice and Decision Making:
M. Election techniques,
N. Weighted voting systems,
O. Power indices,
P. Fair Division methods,
Q. Apportionment methods
Topics from Size and Growth
R. Growth and Form
S. Symmetry and Patterns
T. Tilings

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):
1. Tannenbaum: *Excursions in Modern Math*, Pearson.
B. Other Resources:
1. Scientific calculator.

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:
1. Lecture
2. Small group discussion
3. Videos to supplement the text

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:
1. Quizzes
2. Homework
3. Hour exams
4. Comprehensive final exam
5. Group projects

B. SCC GRADING SCALE

A+	95-100	C+	75-79	F	59 or less
A	90-94	C	70-74		
B+	85-89	D+	65-69		
B	80-84	D	60-64		

VIII. SPECIFIC COURSE REQUIREMENTS

A. None.