

FLORIDA STATE COLLEGE AT JACKSONVILLE

COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: MGF 2118

COURSE TITLE: Topics in Finite Mathematics

PREREQUISITE(S): MAT 1033 with a grade of "C" or better or a satisfactory score on the placement test

COREQUISITE(S): None

CREDIT HOURS: 1

CONTACT HOURS/WEEK: One contact hour for fifteen weeks; or three contact hours for five weeks

CONTACT HOUR BREAKDOWN:

Lecture/Discussion: 1

Laboratory:

Other _____:

FACULTY WORKLOAD POINTS: 1

STANDARDIZED CLASS SIZE ALLOCATION: 25

CATALOG COURSE DESCRIPTION:

This course introduces students to the basic principles of symbolic logic; the theory of probability, some of the statistical methods used in the collection, presentation, description, and interpretation of data; and informal geometry. It is designed to focus attention on the importance of logical thinking, to provide a foundation for the mathematical study of uncertainties to familiarize students with the terminology and concepts of both statistics and informal geometry. This course is intended for students who are planning to take the CLAST and need additional preparation.

SUGGESTED TEXT(S): Angel & Porter, Guide to Clast Mathematical Competency, Current Edition; Addison-Wesley Publishing Co., ISBN 0-201-54997-2, DC & SC.

IMPLEMENTATION DATE: November 16, 1987

REVIEW OR MODIFICATION DATE: Winter Term, 1994 (942)
Fall Term, 2002 (20031)
Spring Term, 2005 (20052)
Fall Term, 2008 (20091)- Outline Review 2007

COURSE TOPICS	CONTACT HOURS <u>PER TOPIC</u>
I. Sets, & Symbolic Logic <ul style="list-style-type: none"> • Sets, set operations, Venn Diagrams A. Statements B. Negations, Conjunctions, Disjunctions and Truth Tables(2E1, 3E1, 3E2) C. Conditional Statements D. Equivalent Statements (2E2) E. Valid Arguments (2E3, 2E4, 4E1) Euler Diagrams (1E1) 	6
III. Introduction to Probability <ul style="list-style-type: none"> A. Counting Principles, indirect counting, permutations, combinations B. Probability, conditional probability (2D3, 4D2) 	3
II. Descriptive Statistics <ul style="list-style-type: none"> A. Graphic Presentations of Data (1D) B. Measures of Central Tendency (1D2, 2D1) C. Measures of Dispersion D. The Normal Curve <ol style="list-style-type: none"> 1. Properties 2. Uses (4D1) 	3
IV. Geometry and Measurement <ul style="list-style-type: none"> • Descriptive geometry • Measurement (English and Metric) A. Rounding Measurements (1B1) B. Perimeters, Areas, and Volumes (1B2, 4B1, 4B2) • Parallel lines and resulting angles C. Relationships Between Angle Measures (2B1) D. Similar Triangles (2B3) E. Simple Plane Figures (2B2) 	3

The following skills taught in this course are measured by CLAST.

Logical Reasoning Skills:

- 1E1 - Deduces facts of set-inclusion or non-set-inclusion from a diagram
- 2E1 - Identifies simple and compound statements and their negations
- 2E2 - Determines equivalence or nonequivalence of statements
- 2E3 - Draws logical conclusions from data
- 2E4 - Recognizes that an argument may not be valid even though its conclusion is true
- 3E1 - Infers valid reasoning patterns and expresses them with variables
- 3E2 - Selects applicable rules for transforming statements without affecting their meaning
- 4E1 - Draws logical conclusions when facts warrant them

Statistics Skills, Including Probability:

- 1D1 - Identifies information contained in bar, line and circle graphs
- 1D2 - Determines the mean, median, and mode of a set of numbers
- 4D1 - Solves real-world problems involving the normal curve
- 4D2 - Solves real world problems involving probabilities

Geometry and Measurement Skills:

- 1B1 - Rounds measurements to the nearest given unit of the measuring device
- 1B2a- Calculates distances
- 1B2b- Calculates areas
- 1B2c- Calculates volumes
- 2B1 - Identifies relationships between angle measures
- 2B2 - Classifies simple plane figures by recognizing their properties
- 2B3 - Recognizes similar triangles and their properties
- 2B4 - Identifies appropriate types of measurement of geometric figures
- 3B1 - Infers formulas for measuring geometric figures
- 3B2 - Identifies applicable formulas for computing measures of geometric figures
- 4B1 - Solves real world problems involving perimeters, areas, and volumes of geometric figures
- 4B2 - Solves real-world problems involving the Pythagorean property

*Topics need not be presented in the indicated order.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

COURSE PREFIX AND NUMBER: <u>MGF2118</u>	SEMESTER CREDIT HOURS: <u>1</u>
COURSE TITLE: <u>Topics in Finite Mathematics</u>	

TYPE OF COURSE: (Click on the box to check all that apply)

AA Elective AS Required Professional Course College Prep
 AS Professional Elective AAS Required Professional Course Technical Certificate
 Other _____
 General Education: (For General Education courses, you must also complete Section 3 and Section 7)

INTELLECTUAL COMPETENCIES:

Reading Speaking Critical Analysis Quantitative Skills Scientific Method of Inquiry
 Writing Listening Information Literacy Ethical Judgment Working Collaboratively

LEARNING OUTCOMES		METHOD OF ASSESSMENT
	The students will be able to:	
	1. Represent mathematical information symbolically and visually through use of sets and Venn diagrams.	Students demonstrate analytical reasoning skills by solving problems on tests, class assignment, and projects.
	2. Demonstrate an understanding of the fundamentals of mathematical logic and be able to differentiate between a valid argument and a fallacy.	Through tests and class assignments, students demonstrate quantitative literacy in solving mathematical problems.
	3. Demonstrate an understanding of geometric figures and formulas to solve real-world problems.	Students illustrate competence in forming conclusions from mathematical models through tests and class assignments.
	4. Estimate and check answers to mathematical problems in order to determine reasonableness.	Students demonstrate an understanding of application of mathematical principles through real-world applications on test and class assignments.
	5. Demonstrate an understanding of units of measurement and use metric and U.S. customary systems to solve real-world problems.	Students are successful in subsequent courses and standardized exams that utilize mathematical methods, models, and measures.
	6. Utilize basic combinatorics to develop data for determining probability.	

Name of Person Completing This Form: Roger E. Breen Date: 02/06/2004