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| **PROFESSOR:** | **PHONE NUMBER:** |
| **OFFICE LOCATION:** | **E-MAIL:** |
| **OFFICE HOURS:** | **SEMESTER:** |

1. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**MGF 1107 MATHEMATICS FOR LIBERAL ARTS II (3 CREDITS)**

This course is intended to present topics which demonstrate the beauty and utility of mathematics to the general student population. Topics include management science, linear and exponential growth, numbers and number systems, history of mathematics, elementary number theory, voting techniques and graph theory. This course is designed for those students whose majors do not require the technical mathematics sequence. If completed with a grade of “C” or better, this course serves to demonstrate competence for the general education mathematics requirement.

1. **PREREQUISITES FOR THIS COURSE:**

SB 1720 exemption, or testing, or (MAT 0057 with a "C" or better), or (MAT 1100 with a "C" or better), or (MAT 1033 or higher with a "C" or better)

**CO-REQUISITES FOR THIS COURSE:**

None

1. **GENERAL COURSE INFORMATION:** Topic Outline.

• Financial mathematics

• Linear and exponential growth

• Numbers and number systems

• History of mathematics

• Elementary number theory

• Voting techniques

• Graph theory

1. **All courses at Florida SouthWestern State College contribute to the general education program by meeting one or more of the following general education competencies:**

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

**A.**  **General Education Competencies and Course Outcomes**

1. Listed here are the outcomes/objectives assessed in this course which play an integral part in the student’s general education along with the general education competency they support.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

* Student will discuss how various voting methods are used to determine election winner.

2**.**Listed here are the outcomes/objectives assessed in this course which play a *supplemental* role in the student’s general education along with the general education competency they support.

General Education Competency: **Visualize**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

* Student will understand the history of some ancient number system and able to convert to Hindu-Arabic numeral system.

**B.** **Other Course Objectives/Standards**

* Change numerals and perform basic arithmetic operations in bases other than ten.
* Translate between Hindu-Arabic and Roman and other numeration systems.
* Determine the greatest common divisor and the least common multiple of two numbers using prime factorization.
* Solve application problems involving rational numbers, percents, proportions and direct/inverse variation.
* Recognize subsets and properties or real numbers.
* Construct and evaluate a model for arithmetic and geometric sequences.
* Solve the problems that involve algebraic expression, linear equation and inequalities.
* Evaluate and construct models of linear and exponential growth.
* Solve the problems that include percent, sales tax and discounts.
* Determine gross income, adjustable gross income, taxable income, and income tax.
* Calculate simple interest, compound interest, present value and effective yield.
* Determine the amount financed, installment price, finance charge, payoff amount and interest charged on fixed loans and credit card purchases.
* Compare mortgage options and calculate associated expenses.
* Construct an amortization table to calculate disbursements of a mortgage payment to principal and interest.
* Distinguish among and utilize various voting methods to determine and election’s winner.
* Distinguish among and utilize various methods for solving the apportion method.
* Discussion potential flaws with the various voting and apportionment methods.
* Solve application problems by using graph theory models such as paths, circuits, trees and graphs.

1. **DISTRICT-WIDE POLICIES:**

**Programs for Students with Disabilities**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct.  Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu).  Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online.  Additional information and resources can be found on the College’s website at <http://www.fsw.edu/sexualassault>.

1. **REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

1. **ATTENDANCE POLICY:**

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

1. **GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

1. **REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

1. **RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

1. **CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

1. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)