

# Course Syllabus

## Course Information

**Course Title:** Mathematics For Liberal Arts 2

**Subject and Number:** MGF 1107

**Course Description:** The student will learn the concepts of financial mathematics, linear and exponential growth, numbers and number systems, history of mathematics, elementary number theory, voting techniques, and graph theory. Prerequisite: Course, placement score, or eligible exemption). Fulfills Gordon Rule computational requirement.

**Class Number:** LOREM IPSUM

**Term and Year:** LOREM IPSUM

**Course Modality:** [MDC Modalities](https://www.mdc.edu/registration/options/default.aspx)

## Instructor Information

**Name:** LOREM IPSUM

**Department and Campus:** LOREM IPSUM

**Office location:** LOREM IPSUM

**Office hours:** *(communicate course office hours with students)*

**Phone number:** 123-456-7890

**Email:** LOREM IPSUM

**Communication Policy:** *(Faculty will establish protocols for communication with students)*

## Required Textbook, Course Materials, and Technology

**Required course materials:** *(Textbook(s), library reserves, shark pack, and/or other required readings. Include ISBN Number and author(s))*

**List optional/supplemental materials/OER:** LOREM IPSUM

**Technology & Technical Skill Requirements:** *(Technology tools or equipment students need to complete this course are included)*

## Grading Policy & Assessment Methods

*List all activities, papers, quizzes, tests, etc. including grading scale used for final grade calculation. Relationships between the final grade and the learner’s accumulated points or percentages/weights breakdown for each assessment or component of the course grade.*

*Include policy on late submissions.*

*For MDC Live and MDC Online courses, include policy regarding exams (e.g., ProctorU, Respondus Lockdown and Monitor, etc.)*

*If applicable, include guidelines for extra credit.*

**Incomplete Grades:** [View the college’s procedures for Incomplete Grades](https://www.mdc.edu/procedures/Chapter8/8381.pdf)

## Miami Dade College Policies

**Attendance Policy:** *(Faculty include precise statements about illnesses/emergencies/ tardiness, missed assignments/make-up.)*

**Students Rights and Responsibilities:** *Policies addressing academic integrity and plagiarism, code of conduct, grade appeals, religious observations, services for students with special needs, student complaints, and other.*

[For more information, visit the Student’s Rights and Responsibilities page](https://www.mdc.edu/rightsandresponsibilities/)

## Available Support Services & Resources

* [Tutoring Labs and Technology – Learning Resources](https://www.mdc.edu/learning-resources/tutoring-labs-technology/)
* [Virtual Tutoring through Learning Resources or Smarthinking Online Tutoring](https://libraryguides.mdc.edu/BbLTutoring)
* [ACCESS: A Comprehensive Center for Exceptional Student Services](https://www.mdc.edu/access/)
* [Advisement](https://www.mdc.edu/advisement/)
* [Password and Login Technical Support](https://www.mdc.edu/registration/password.aspx)
* [Technical Support for MDC Live and MDC Online Courses](https://www.mdc.edu/online/resources/tech-support.aspx)
* [SMART Plan](https://www.mdc.edu/smart/)

*(Faculty select from the above if applicable and include additional course/campus specific resources)*

## Available Support Services & Resources

* [Public Safety - Services](https://www.mdc.edu/safety/services/)
* [Hurricane and Other Natural Disasters:](https://www.mdc.edu/safety/in-case-of-emergency/) In the event of a hurricane or other disaster, the class follows the schedule established by the College for campus-based courses. Please visit the MDC website or call the MDC Hotline (305-237-7500) for situation updates.

## Course Description

**MGF1107 | Mathematics For Liberal Arts 2 | 3 credits**

The student will learn the concepts of financial mathematics, linear and exponential growth, numbers and number systems, history of mathematics, elementary number theory, voting techniques, and graph theory. Prerequisite: Course, placement score, or eligible exemption). Fulfills Gordon Rule computational requirement.

## Course Competencies

### Competency 1:

The student will demonstrate knowledge of Financial Mathematics by:

* Differentiating between simple and compound interest.
* Computing the present and future value of lump sums or streams of payments.
* Constructing amortization schedules and computing payments on installment loans.
* Utilizing the coordinate plane to graph relationships.
* Differentiating between linear and exponential growth.
* Developing models of population growth using linear and exponential growth concepts.

Learning Outcomes

* Communication
* Critical thinking
* Information Literacy
* Numbers / Data
* Social Responsibility

### Competency 2:

The student will demonstrate knowledge of numbers and number systems by:

* Describing what a number system is and what its function is.
* Describing the evolution of the real number system.
* Converting numbers written in one base to another.

Learning Outcomes

* Critical thinking
* Information Literacy
* Numbers / Data

### Competency 3:

The student will demonstrate knowledge of the History of Mathematics by:

* Presenting some of the important events and personalities in the history of mathematics.

Learning Outcomes

* Aesthetic / Creative Activities
* Communication
* Computer / Technology Usage
* Critical thinking
* Cultural / Global Perspective
* Information Literacy
* Numbers / Data
* Social Responsibility

### Competency 4:

The student will demonstrate knowledge of Elementary Number Theory by:

* Applying the properties of the integers and their structure in relation to the prime numbers.
* Computing the least common multiple and greatest common factor of two numbers using the Euclidean Algorithm.
* Performing operations with modular arithmetic.

Learning Outcomes

* Critical thinking
* Information Literacy
* Numbers / Data

### Competency 5:

The student will demonstrate knowledge of Voting Techniques by:

* Distinguish between plurality, Borda Count, plurality with elimination and pairwise comparison voting methods.
* Stating what reasonable criteria a voting method must have.
* Determining the flaws in a voting method.
* Determining winning conditions.

Learning Outcomes

* Communication
* Critical thinking
* Cultural / Global Perspective
* Ethical Issues
* Information Literacy
* Numbers / Data
* Social Responsibility

### Competency 6:

The student will demonstrate knowledge of Graph Theory by:

* Knowing the terminology of graph theory.
* Using graphs to model relationships of sets of objects.
* Applying Euler’s Theorem to solve problems.
* Using Fleary’s Algorithm to find Euler Circuits.
* Solving routing problems by using graph Eulerization.

Learning Outcomes

* Communication
* Critical thinking
* Information Literacy
* Numbers / Data
* Social Responsibility