Lake-Sumter State College Course Syllabus

Course Information:

Course Prefix and Number**: MGF 1107**
Course Title**: Explorations in Math**
CRN: **20026, 20640**
Credit Hours: **3**
Semester: **Spring 2021**
Class Days, Location, and Time: **ONLINE**

> **This is a fully online course and therefore will not have any scheduled face-to-face lecture meetings. The tests for this course will be given in a proctored online setting using Honorlock online proctoring during test weeks. You do NOT need to come to campus to take your tests. Please see the Technology Requirements of this syllabus as you will need an USB web cam for testing.**

Course Description: This is a survey course covering a selection of a least six (6) topics from among the following: consumer mathematics, linear and exponential growth, numeration systems, history of mathematics, number theory, voting techniques, graph theory, mathematical systems, non-Euclidean geometries, linear correlation and regression, and similar topics which demonstrate the beauty and utility of mathematics to the general student population.

Instructor Information:

Name: **Thom Kieft**
E-Mail: **KieftT@lssc.edu**
Office Location: **Science-Health Bldg., Office 142, South Lake Campus**
Phone: **352-536-2150**
Office Hours: Appointments available by request

Your instructor, Mr. Kieft, will be available to meet with you virtually during predetermined times throughout the semester and will also be available for appointment. This online course allows you the freedom to access the course at times convenient to you and your schedule. However, you are expected to do all your work based on the schedule in the class syllabus with specific due dates. Successful MGF 1107 online students are self-motivated and possess the self-discipline needed to manage their time effectively.

My office is located in South Lake, so if you set up an appointment to meet with me in person, you will need to come to Science-Health 142.

Vital Communication Information:

For e-mail, please note that all students are required to use Lakehawk Mail for official college e-mail communications. See the college webpage for instructions on activating Lakehawk Mail.

Sending a private message using the INBOX in Canvas is always the most secure method of contacting your Instructor.

Please remember that any phone contact with your Instructor should be of a professional nature. Please always leave a clear, concise, but detailed message with your contact and class information. Always follow up a phone call with a written account via INBOX in Canvas or e-mail.

Prerequisites/Co-requisites:

Prerequisites: C or higher in MAT 1033 or MAT 1100; or appropriate placement score.
Co-requisites: None

Textbook & Other Course Materials:

- **REQUIRED: MyMathLab Access Code** (there is an e-text in MyMathLab)
  (All homework will be online as well as quizzes and the proctored tests will be online using Honorlock) You will need an access code (purchased online through the publisher's site or from the LSSC bookstore). The MyMathLab access code for MGF 1106 will also work for MGF 1107 if taken within one year of one another and if the edition of the text has not changed unless you purchased a shorter duration access code.
- ***Optional Printed Text:*** A Survey of Mathematics with Applications, 10th edition; Angel and Porter; Addison Wesley(the printed textbook is bundled with the access code at the bookstore for only a little more than what the bookstore charges for the MyMathLab access code)

Technology Requirements:

Your course will be delivered through Canvas and My Math Lab. You will register in My Math Lab when you complete the Getting Started activities in Canvas. Tests will be proctored through Canvas – Honorlock.

REQUIRED handheld calculator: You will need a handheld scientific calculator (phone apps not permitted). You will be required to show work on your test using formulas for many problems. Failure to show your work could result in reduced or no credit. **A TI-30XS MultiView calculator is strongly recommended.** You will not be allowed to use a calculator app on your phone. TI graphing calculators, such as the TI-83 and 84, are NOT allowed on tests, only a scientific calculator such as the TI-30XS MultiView.

REQUIRED proctored testing: Honorlock will proctor your tests this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. Honorlock is available during the time set by your instructor. Minimum requirements to use Honorlock are included below.

When you are ready to test, you will log into Canvas, go to your course, and click on Honorlock. Clicking "Launch" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session by webcam as well as recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers on any device.

Minimum technology requirements to use Honorlock include: A computer (laptop or desktop), Google Chrome web browser, Google Chrome Honorlock extension(you can download the extension at www.honorlock.com/extension/install), a working USB webcam, a working microphone, and a stable internet connection. If you do not have a webcam, please purchase one that can be moved around to show your workspace. An I-pad will not function with the Honorlock proctoring. Tablets are not recommended for this course. If you need assistance obtaining the required technology for any course, please contact an Emergency Dean at LSSC at deanofstudents@lssc.edu as soon as possible. If the required technology cannot be secured within the first 5 days of the course, students are encouraged to consider other course-delivery alternatives.

Use Honorlock's *Simple Single-Click Test* to determine if your operating system, browser, and internet speed meet requirements. The test is available on the Honorlock support webpage: https://honorlock.com/support/.

Course Student Learning Outcomes:

The following outcomes will be assessed in this course. An "outcome" is defined as something students take with them beyond this course. After successful completion of this course, the student will:

1) Calculate in non-base ten numeric systems.
2) Demonstrate competency in geometric modeling.
3) Apply consumer mathematics to real world application.

Course Objectives:

Objectives are defined as what the course will do and/or what the students will do as part of the course.

Provide students with exposure to topics which demonstrate the beauty and utility of mathematics to the general public.

Module Objectives:

Module 1 (4.1-4.4)

1.1 Convert between Egyptian and Hindu-Arabic numerals.
1.2 Convert between Roman and Hindu-Arabic numerals.
1.3 Convert between Chinese and Hindu-Arabic numerals.
1.4 Convert between Ionic Greek and Hindu-Arabic numerals.
1.5 Write a Hindu-Arabic numeral/ expression in expanded form.
1.6 Convert between Babylonian and Hindu-Arabic numerals.
1.7 Convert between Mayan and Hindu-Arabic numerals.
1.8 Convert numerals to base 10.
1.9 Convert base 10 numerals to other bases.
1.10 Add in different bases.
1.11 Subtract in different bases.
1.12 Multiply in different bases.

Module 2 (13.1-13.4)

2.1 Create a graph to represent a situation and solve problems.
2.2 Determine a path and a circuit on a graph.
2.3 Determine if a graph is connected or disconnected.
2.4 Determine if an edge is a bridge.
2.5 Determine Euler paths and circuits for given graphs.
2.6 Use Fleury's algorithm to determine an Euler Path and Circuit.
2.7 Draw a complete graph.
2.8 Determine Hamilton paths, Hamilton circuits from graphs.
2.9 Solve traveling salesman problems using the Brute Force Method.
2.10 Solve the traveling salesman problems using the Nearest Neighbor Method.
2.11 Create a tree to represent a situation.
2.12 Determine spanning trees.
2.13 Determine minimum-cost spanning trees.

Module 3 (10.1-10.3,10.5)

3.1 Convert between fractions, decimals and percents.
3.2 Solve application problems using percents.
3.3 Solve problems involving simple interest.
3.4 Solve application problems with Loans and bank discounts.
3.5 Use the United States Rule to solve partial payment problems.
3.6 Solve problems involving compound interest.
3.7 Solve problems involving the present value of an investment.
3.8 Solve problems to find the effective annual Yield.
3.9 Solve problems about mortgages including down payments and points.
3.10 Solve application problems to decide if a person is eligible for a mortgage.
3.11 Solve problems about mortgages to decide the monthly payment.

Module 4 (14.1-14.3)

4.1 Create a preference table.
4.2 Solve problems using plurality voting method.
4.3 Solve problems using Borda count voting method.
4.4 Solve problems using plurality with elimination voting method.

4.5 Solve problems using pairwise comparison voting method.
4.6 Determine if the results of an election violate the majority criterion, head-to-head criterion, monotonicity criterion, and the irrelevant alternatives criterion.
4.7 Find the standard divisor and standard quotient.
4.8 Use Hamilton's method for apportionment.
4.9 Use Jefferson's method for apportionment.
4.10 Use Adam's method for apportionment.
4.11 Use Webster's method for apportionment.

Module 5 (9.1-9.3, 12.6)

5.1 Identify the identity elements and inverses.
5.2 Identify the commutative property, associative property and closure.
5.3 Determine whether mathematical systems are groups.
5.4 Determine whether mathematical systems are commutative groups.
5.5 Perform clock arithmetic.
5.6 Analyze mathematical systems.
5.7 Determine whether a finite mathematical system defined by clock arithmetic is a group.
5.8 Solve problems involving modulo m systems.
5.9 Determine whether a mathematical system defined using a modulo m system is a commutative group.
5.10 Draw a Scatter Plot.
5.11 Determine if a correlation exists using linear correlation coefficient.
5.12 Determine the equation of the line of best fit.

Institutional Policies & Procedures:

Academic Integrity:

The successful functioning of the academic community demands honesty, which is the basis of respect for both ideas and persons. In the academic community, there is an ongoing assumption of academic integrity at all levels. There is the expectation that work will be independently thoughtful and responsible as to its sources of information and inspiration. Honesty is an appropriate consideration in other ways as well, including but not limited to the responsible use of library resources, responsible conduct in examinations, and the responsible use of the Internet. See college catalog for complete statement.

Important Information for Students with Disabilities:

Any student with a documented disability who requires assistance or academic accommodations should contact the Student Accessibility Services (SAS) immediately to discuss eligibility. The Student Accessibility Services (SAS) is located on the Leesburg Campus, but arrangements can be made to meet with a student on any campus. An appointment can be made by calling 352-365-3589 and specific information about SAS and potential services can be found at Student Accessibility Services.

Privacy Policy (FERPA):

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part99) is a Federal law that protects the privacy of a student's education records. In order for your information to be released, a form must be signed and, in your records, located in the Admissions/Registrar's Office.

Zero-Tolerance for Violence Statement:

Lake-Sumter State College has a policy of zero tolerance for violence as stated in College Board Rule 2.17. Appropriate disciplinary action will be taken in accordance with Board Rule 2.17.

LSSC Safety Statement:

Lake-Sumter State College values the safety of all campus community members. **If you have an emergency, dial 911.** Otherwise, to report a concern, suspicious activity, or to request a courtesy escort, call Campus Safety:

(352) 516-3795 Leesburg
(352) 536-2143 South Lake
(352) 303-7296 Sumter

LSSC also has a free safety app, ***Lake-Sumter Safe*** that is available for download. You will receive important emergency alerts and safety messages regarding campus safety via LSSC Alert. You are opted into this system when you become an LSSC student. For more information regarding safety and to view available resources, visit the Campus Safety web page.

Attendance/Withdrawal Policies:

Initial Attendance:

Initial attendance will be entered at the end of the second week of the semester/mini-semester. A student who has not met initial attendance requirements will be marked as "not-attending" and administratively withdrawn from the class. The withdrawn student is still financially responsible for the class. See the college catalog for more details.

Institutional Information:

Once the Add/Drop period passes, students deciding to discontinue class attendance and/or online participation have the responsibility for formal withdrawal by the withdrawal deadline.

Withdrawal:

Once the Add/Drop period passes, students deciding to discontinue class attendance and/or online participation have the responsibility for formal withdrawal by the withdrawal deadline. If you wish to withdraw from the course, it is **your** responsibility to go to the Admissions Office and do so officially, or you will receive your calculated course grade.

Withdrawal Deadline: March 29, 2021

Instructor Policies:

This is a college class. Everyone in the online environment, students and faculty, are expected to act appropriately, in an atmosphere of mutual respect and courtesy. Since this is an online section you must stay active in the class and meet all deadlines posted in Canvas and in MyMathLab. Due dates will not be extended unless there are emergency situations with instructor approval.

If you are caught cheating, you will either fail the test or fail the course, at the discretion of the instructor. No additional warning will be given. You are not allowed to have a phone or a smartwatch on you while testing. No graphing calculators such as the TI-83 or TI-84 are allowed. Only scientific calculators are allowed to be used on the test.

You must have a photo ID and a working webcam with microphone to take the test using Honorlock thru Canvas.

Grading Information/ Scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
59% and below	F

Methods of Evaluation:

Your grade is based on three components: online quizzes, online homework, and 5 proctored tests that you take online through Canvas using the Honorlock service. There is no cumulative final exam in this course. You must show your work in all cases in order to receive credit for your answers on the tests. Test work paper will be provided and submitted in Assignments in Canvas for grading with answers being submitted in MyMathLab.

Assignment Overview & Grade Breakdown:

Category	Description	%
Tests	There will be 5 tests that must be taken during test weeks through Canvas and MyMathLab using the Honorlock proctoring service at no cost to the student. You will upload your test work paper to Canvas Assignments within 15 minutes of completing of the test. Make-ups may be allowed at the sole discretion of the instructor—depending on whether, in the instructor's judgment, you missed the testing period for a valid reason, and provided you contacted the instructor no later than Friday morning of test week. The instructor may ask you to supply supporting documentation (such as a doctor's note). You must have a photo ID and webcam anytime you test. If you do not have a webcam, let me know the first week of the class and we can try to assist you in getting one. You will be asked to not have any phones or smartwatches near you when testing.	75%
Quizzes	**NO make-up quizzes will be allowed for any reason**. Quizzes will be given online in MyMathLab and due on Sunday by 11:59 pm. **The online quizzes will have prerequisites of completion of the associated homework, thus you must complete your homework prior to taking a quiz on that content. Each quiz you may take twice by the due date and only the highest score will count toward your grade.** The lowest 2 quiz grades will be dropped at the end of the term and your remaining quizzes will be averaged for your quiz grade. You will not do well on a quiz unless you have done the appropriate online homework and watch the related videos for the material on the quiz.	15%
Homework	All homework will be completed online through MyMathLab (MML). You will need to register for MyMathLab by logging into Canvas from the LSSC website**.** There will be due dates clearly posted in MyMathLab for each assignment. In most cases homework for a particular section will be due on the Sunday by 11:59 pm of the test week for that section, yet to access the weekly Quizzes you must score at least a 70% on the related homework. You may access Canvas/MML on the computers in the LSSC Learning Center, library, or on your home computer if you have appropriate hardware and an Internet connection. Questions on the homework assignments can be reworked until they are correct so you can attain a 100% on the homework as long as you persevere on it.	10%
	Total Points	100%

Test Proctoring through Honorlock

You will need to secure a quiet, distraction-free space with a computer and reliable Internet connection in order to complete your tests for this course. No one should be in the room with you, and no other electronic devices may be present in the room (including other computers, tablets, phones, or smart watches). Be certain to let others in your home or office know that you cannot be interrupted for the entire duration of your test.

Honorlock will proctor your tests this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account or download software. To use Honorlock, you will need a computer, a working webcam (preferably an external webcam), a microphone, and a stable Internet connection.

To get started, you will need Google Chrome and to download the Honorlock Chrome Extension. You can download the extension at www.honorlock.com/extension/install

When you are ready to test, log into Canvas, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Please view the information about an acceptable Room scan, (*https://www.dropbox.com/s/mlctopf9n26ha3b/RoomScan.mp4?dl=0*) This information is also available in the testing tab in Canvas. If your room scan does not follow these instructions your test may be invalid and you may be required to re-take the exam in another manner. Honorlock will be recording your exam session using your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact them by live chat, phone (**844-243-2500**), and/or email (support@honorlock.com).

Although significant efforts are made to deter students from engaging in dishonest work, students may become tempted to cheat. Honorlock will record webcam footage, computer screens, and audio throughout the entire testing session for each student and each test. Instructors will carefully review the recordings for any signs of academic dishonesty. If an instructor feels that there is questionable activity, they may ask the student to retake part or all of the test with them during a Zoom proctoring or on campus proctoring. The instructor has the right to ask for all other tests to be taken individually with them using Zoom or on campus at their designated time when academic dishonesty is suspected. This includes, but is not limited to a test where the work space is not visible during a test (i.e., only the face of the student is visible this is not acceptable during a test), the room scan is not executed properly, or if there are discrepancies between the work you submit and the exam answers

Additionally, students are required to submit a copy of all their written work for a test within 15 minutes of completing a test as a pdf within the Canvas Assignment for the Test Work Paper. All problems must show work for credit. Points can be awarded for partial credit but they can be deducted for any problem where work is missing. Work must correspond to the answers submitted into MyMathLab. Some problems will be noted during the test that they will be graded by hand, but this does not mean that work is not required for the rest of the test. The written work must directly support the answers entered in MyMathLab in order to receive any credit.

Course Calendar:

See schedule in Canvas in each Module. See the last page of this syllabus for a tentative schedule.

Basic Needs Statement:

Any student who faces challenges securing basic needs such as food or housing and believes this may affect their performance in the course is encouraged to contact a campus dean at deanofstudents@lssc.edu. The deans will then be able to share any resources at their disposal.

Syllabus Disclaimer:

Information contained in this syllabus is, to the best knowledge of this instructor, considered correct and complete when distributed to the student. The instructor reserves the right, acting within policies and procedures of Lake-Sumter State College, to make necessary changes in course content or instructional techniques with notification to students.

Online MGF 1107 Weekly Schedule

Each week's listed discussions and quizzes are due Sunday at 11:59 pm.

All listed sections' homework is due by 11:59 pm on the Sunday of each Test Week.

In order to access the quiz for the week, at least 70% of the corresponding homework sections must be done.

***Before doing the homework, you are to watch the videos in MyMathLab homework and use the extra resources in Canvas*.**

WEEK	DATES	WEEKLY CONTENT	ASSIGNMENTS DUE
Week 1	Monday 1/11 Sunday 1/17	• Content: 4.1, 4.2	• **Canvas DISCUSSION 1 Due on Sunday** • **Take the Honorlock Orientation Quiz (no math questions) by Sunday** • **MML Quiz 1 (4.1, 4.2) Due on Sunday**
Week 2	Monday 1/18 Sunday 1/24	• Content: 4.3, 4.4 • Chapter 4 HW due Sunday	• **MML 4.1-4.4 HW due on Sunday** • **MML Quiz 2 (4.3, 4.4) Due on Sunday**
Week 3	Monday 1/25 Sunday 1/31	• **Test 1 on 4.1-4.4 (MUST take no later than Saturday, 1/30)**	• **Test 1 on 4.1-4.4 (MUST take no later than Saturday, 1/30)**
Week 4	Monday 2/1 Sunday 2/7	• Content: 13.1,13.2	• **MML Quiz 3 (13.1, 13.2) Due on Sunday MML**
Week 5	Monday 2/8 Sunday 2/14	• Content: 13.3,13.4 • Chapter 13 HW due Sunday	• **MML 13.1-13.4 HW due on Sunday** • **Quiz 4 (13.3, 13.4) Due on Sunday** • **Canvas DISCUSSION 2 Due on Sunday**
Week 6	Monday 2/15 Sunday 2/21	• **Test 2 on 13.1-13.4 (MUST take no later than Saturday 2/20)** • Content: 10.1	• **Test 2 on 13.1-13.4 (MUST take no later than Saturday, 2/20)**
Week 7	Monday 2/22 Sunday 2/28	• Content: 10.1, 10.2	• **MML Quiz 5 (10.1, 10.2) Due on Sunday**
Week 8	Monday 3/1 Sunday 3/7	• Content: 10.3, 10.5 • Chapter 10 HW due Sunday	• **MML 10.1,10.2,10.3,10.5 HW due Sun** • **MML Quiz 6 (10.3, 10.5) Due on Sunday**
Week 9	Monday 3/8 Sunday 3/14	• **Test 3 on 10.1, 10.2, 10.3, 10.5(MUST take no later than Saturday, 3/13)** • Content: 14.1	• **Test 3 on 10.1, 10.2, 10.3, 10.5(MUST take no later than Saturday, 3/13)**
	Sunday 3/14 Sunday 3/21	• **SPRING BREAK**	• **NOTHING DUE THIS WEEK**
Week 10	Monday 3/22 Sunday 3/28	• Content: 14.2, 14.3 • CH 14 HW due Sunday	• **MML 14.1, 14.2, 14.3 HW due on Sunday** • **MML Quiz 7 (14.1, 14.2, 14.3) Due on Sunday**
Week 11	Monday 3/29 Sunday 4/4	• **Withdrawal Deadline: Monday, March 29** • **Test 4 on 14.1-14.3 (MUST take no later than Saturday, 4/3)**	• **Test 4 on 14.1-14.3 (MUST take no later than Saturday, 4/3)**

WEEK	DATES	WEEKLY CONTENT	ASSIGNMENTS DUE
Week 12	Monday 4/5 Sunday 4/11	• Content: 9.1, 9.2	• **MML Quiz 8 (9.1, 9.2) Due on Sunday**
Week 13	Monday 4/12 Sunday 4/18	• Content: 9.3, 12.6	• **MML Quiz 9 (9.3) Due on Sunday**
Week 14	Monday 4/19 Sunday 4/25	• Content: 12.6 • Chapter 9 and 12 HW due on Sunday	• **MML 9.1-9.3, 12.6 HW due on Sunday** • **MML Quiz 10 (12.6) Due on Sunday**
Week 15	**Monday 4/26** **Friday 4/30**	• **Test 5 on 9.1-9.3 and 12.6 (MUST take no later than Friday, 4/30)**	• **Test 5 on 9.1-9.3 and 12.6 (MUST take no later than Friday, 4/30)**

Spring 2021 Test Weeks

Testing will be taken in Canvas and MyMathLab using Honorlock test proctoring service at no additional cost to the student. Students must have photo-id and a working webcam with a microphone in order to take the tests.

Test #1 Jan. 27-30
Test #2 Feb. 17-20
Test #3 March 10-13
Test #4 March 31-April 3
Test #5 April 26-April 30

There is no Final Exam in MGF 1107