LIBERTY UNIVERSITY

Online · College of Arts & Sciences · General Math & Sciences

College Algebra

MATH-121

CG   Section 16WK   11/10/2019 to 04/18/2020   Modified 05/20/2022

🖥 Course Description

Fundamental concepts of college algebra including sets, equations and inequalities, functions and graphs, polynomials, rational functions, exponential and logarithmic functions, linear inequalities, and linear programming.

Requisites

For information regarding prerequisites for this course, please refer to the Academic Course Catalog (https://catalog.liberty.edu/).

◎ Rationale

MATH 121 provides fundamental math skills needed for further study in mathematics, science, and liberal arts. This course fosters university-level competencies in analytical reasoning and is part of the liberal arts foundation needed to pursue higher education in many fields. Also, understanding mathematics gives us a greater appreciation of God's creative wisdom since it is, to a large extent, the language of His natural revelation.

📊 Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

A. Correctly perform algebraic manipulations.
B. Demonstrate an understanding of the concept of functions to include evaluating functions, determining domains of functions, combining functions, and finding inverse functions with the proper use of functional notation.
C. Solve appropriate algebraic, exponential, and logarithmic equations and inequalities and systems of equations and inequalities.
D. Graph and analyze the graphs of algebraic, exponential, and logarithmic functions.
E. Employ techniques of problem solving.

General Education Fundamental Skill Learning Outcomes: Technological Solutions and Quantitative Reasoning (TSQR)

A. TSQR 1: Analyze data and inform action through a structured method.
B. TSQR 2: Predict the output based on an input in practical scenarios using technological solutions and/or quantitative reasoning.
C. TSQR 3: Apply the skills needed for successful financial stewardship in various contexts.

📘 Course Resources

Click on the following link to view the required resource(s) for the term in which you are registered: Liberty University Online Bookstore (https://bncvirtual.com/liberty).

Additional Materials for Learning

A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended): the preferred browsers for WebAssign are Chrome and Firefox.

C. Canvas [recommended browsers (https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66)](https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66)
D. Microsoft Office
E. WebAssign software, available as a link in Canvas
F. A graphing calculator is recommended but not required. The student may want to use this link to use the Geogebra Graphing Calculator: [https://www.geogebra.org/graphing?lang=en (https://www.geogebra.org/graphing?lang=en)](https://www.geogebra.org/graphing?lang=en)

☷ Course Assignments

Textbook readings and lecture presentations

Course Requirements Checklist

After reading the Course Syllabus and [Student Expectations (https://www.liberty.edu/institutional-effectiveness/student-expectations/)](https://www.liberty.edu/institutional-effectiveness/student-expectations/), the student will complete the related checklist found in the Course Overview.

Discussion

Discussions are collaborative learning experiences. Therefore, the student will participate in 1 Discussion in this course. The student is required to create a thread in response to the provided prompt for the forum. The thread must be at least 350 words. In addition to the thread, the student is required to reply to 2 other classmates' threads. Each reply must be at least 100 words. This assignment aligns with the FSLOs Critical Thinking 1, 2, and 3.

Homework Assignments (12)

The student will complete twelve (12) homework assignments using WebAssign. A 70% or higher must be obtained on the homework assignment before the student may proceed to the quiz for those sections. These assignments align with FSLOs Technological Solutions and Quantitative Reasoning 1 and 2. These assignments align with TSQR #3 in all modules except Modules 8 and 9.

Quizzes (11)

The student will complete 11 quizzes using WebAssign. The student will be given 2 attempts at each quiz with only the higher score being counted. Each quiz will be open-book/open-notes. Each quiz is timed and must be completed in a single sitting. When the due date is reached, the quiz will be available for an extra week, with a 10% late penalty. These assignments align with FSLOs Technological Solutions and Quantitative Reasoning 1 and 2. These quizzes align with TSQR #3 in all quizzes except quizzes 7 and 8 in Modules 8 and 9.

Exam Review Assignments (4)

Exam reviews will be similar to homework assignments. The student must complete the Exam Review in WebAssign with a score of at least 70% on the Review before he/she may take the corresponding exam. These assignments align with FSLOs Technological Solutions and Quantitative Reasoning 1, 2, and 3.

Exams (4)

The student will complete 4 exams using WebAssign. The student will be given 1 attempt at each exam. Each exam is timed and must be completed in a single sitting. When the due date is reached, the exam will be available for an extra week, with a 10% late penalty. Exams submitted without the accompanying written work will not be accepted. (CLO: A, B, C, D, E; FSLO: TSQR 1, 2, 3)

✔ Course Grading

Course Requirements Checklist	10
Discussion: True and Not-True	50

Homework Assignments (12 at 5 pts ea)	60
Quizzes (11 at 20 pts ea)	220
Exam Review Assignments (4 at 5 pts ea)	20
Exams (3 at 150 pts ea and 1 at 200 pts)	650
Total	1010

🏛 Policies

Mathematical Late Assignment Policy

Mathematical assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions

1. Late *mathematical* assignments submitted within one week after the due date will receive a 10% deduction.
2. *Mathematical* assignments submitted more than one week late or after the final date of the course will not be accepted.
3. Discussion board assignments submitted within one week after the due date will receive a 10% deduction.
4. Discussion board submitted more than one week and less than 2 weeks late will receive a 20% deduction.
5. Discussion board submitted more than 2 weeks late will not be accepted.
6. Group projects, including group discussion board threads and/or replies, and assignments will not be accepted after the due date.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

For other assignments, please refer to the standard Late Assignment Policy, below.

Late Assignment Policy

Course Assignments, including discussions, exams, and other graded assignments, should be submitted on time.

If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week after the due date will receive up to a 10% deduction.
2. Assignments submitted more than one week and less than 2 weeks late will receive up to a 20% deduction.
3. Assignments submitted two weeks late or after the final date of the course will not be accepted outside of special circumstances (e.g. death in the family, significant personal health issues), which will be reviewed on a case-by-case basis by the instructor.
4. Group projects, including group discussion threads and/or replies, and assignments will not be accepted after the due date outside of special circumstances (e.g. death in the family, significant personal health issues), which will be reviewed on a case-by-case basis by the instructor.

Disability Assistance

Students with a disability and those with medical conditions associated with pregnancy may contact Liberty University's Online Office of Disability Accommodation Support (ODAS) at LUOODAS@liberty.edu for accommodations. Such accommodations require appropriate documentation of your condition. For more information about ODAS and the accommodations process, including how to request an accommodation, please visit https://www.liberty.edu/online/online-disability-accommodation-support/ (https://www.liberty.edu/online/online-disability-accommodation-support/). Requests for accommodations not related to disabilities or pregnancy must be directed to the Registrar's Office, which generally handles medical needs support.

If you have a complaint related to disability discrimination or an accommodation that was not provided, you may contact ODAS or the Office of Equity and Compliance by phone at (434) 592-4999 or by email at equityandcompliance@liberty.edu. Click to see a full copy of Liberty's [Discrimination, Harassment, and Sexual Misconduct Policy (https://www.liberty.edu/media/1226/Liberty_University_Discrimination_Harassment_and_Sexual_Misconduct_Policy.pdf)](https://www.liberty.edu/media/1226/Liberty_University_Discrimination_Harassment_and_Sexual_Misconduct_Policy.pdf) or the [Student Disability Grievance Policy and Procedures (http://www.liberty.edu/media/8021/Disability_Grievance_Procedures.pdf)](http://www.liberty.edu/media/8021/Disability_Grievance_Procedures.pdf).

Course Attendance

In an effort to comply with U.S. Department of Education policies, attendance is measured by physical class attendance or any submission of a required assignment within the enrollment dates of the course (such as examinations, written papers or projects, any discussion posts, etc.) or initiating any communication with one's professor regarding an academic subject. More information regarding the [attendance policy (https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FOnline%2BAttendance%2Band%2BNon-Attendance&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbaf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613719138&sdata=%2BNBTsPOoXuHAPLflSQRugK7cRSuV6UyC7qD3agf3l2k%3D&reserved=0)](https://nam04.safelinks.protection.outlook.com) can be found in the [Academic Course Catalogs (https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.liberty.edu%2Findex.cfm%3FPID%3D791&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbaf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=DjjhMiRBhnF%2B2ZJUC8eBd1OdNb26S9ADukODYsilXlA%3D&reserved=0)](https://nam04.safelinks.protection.outlook.com). Regular attendance in online courses is expected throughout the length of the term. Students who do not attend within the first week of a sub-term by submitting a required academic assignment (such as the Course Requirements Checklist, an examination, written paper or project, discussion post, or other academic activity) will be dropped from the course. Students who wish to re-engage in the course are encouraged to contact Academic Advising to discuss their enrollment options. Students who begin an online course, but at some point in the semester cease attending, and do not provide official notification to withdraw, will be assigned a grade of "FN" ([Failure for Non-Attendance (https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FUnofficial%2BWithdrawals&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbaf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=MoMvZdPfza69InuhVHMHAVgu59ZP0Fw45xJTu9PIBrU%3D&reserved=0)](https://nam04.safelinks.protection.outlook.com)). Students wishing to withdraw from courses after the official start date should familiarize themselves with the withdrawal policy.

Grading Scale

A	B	C	D	F
900-1010	800-899	700-799	600-699	0-599

For courses with a Pass/NP final grade, please refer to the Course Grading section of this syllabus for the assignment requirements and/or point value required to earn a Passing final grade.

Add/Drop Policy

The full policy statement and procedures are published in the [Policy Directory (https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes)](https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes).

Honor Code

Liberty University comprises a network of students, Alumni, faculty, staff and supporters that together form a Christian community based upon the truth of the Bible. This truth defines our foundational principles, from our Doctrinal Statement to the Code of Honor. These principles irrevocably align Liberty University's operational procedures with the long tradition of university culture, which remains distinctively Christian, designed to preserve and advance truth. Our desire is to create a safe, comfortable environment within our community of learning, and we extend our academic and spiritual resources to all of our students with the goal of fostering academic maturity, spiritual growth and character development.

Communities are predicated on shared values and goals. The Code of Honor, an expression of the values from which our Doctrinal Statement was born, defines the fundamental principles by which our community exists. At the core of this code lie two essential concepts: a belief in the significance of all individuals, and a reliance on the existence of objective truth.

While we acknowledge that some may disagree with various elements of the Code of Honor, we maintain the expectation that our students will commit to respect and uphold the Code while enrolled at Liberty University.

Adherence to the principles and concepts established within facilitates the success of our students and strengthens the Liberty community.

The Code of Honor can be viewed in its entirety at http://www.liberty.edu/index.cfm?PID=19155 [(http://www.liberty.edu/index.cfm?PID=19155)](http://www.liberty.edu/index.cfm?PID=19155).

📅 Schedule

When	Topic	Notes
Course Overview	Student Acknowledgements	Course Requirements Checklist
	Technology Integration Set-Up	Prepare: Course Introduction
Module 1	Learn	Read: 1 items Watch: 3 items
	Apply	HW: Sections P.6 - P.9 Assignment Quiz: MQ Review Part I (P.6- P.9)
Module 2	Learn	Read: 1 item Watch: 10 items
	Apply	HW: Sections 1.1 - 1.3 Assignment Quiz: MQ Review Part II (1.1-1.3) HW: Sections 1.4 - 1.6 Assignment Quiz: MQ Review Part III (1.4-1.6)
Module 3	Learn	Read: 1 item Watch: 4 items Review: 1 item
	Apply	HW: Sections 1.7 - 1.9 Assignment Quiz: MQ Inequalities (1.7 - 1.9) HW: Review and Inequalities Exam Review Assignment Written Work Submission: Review and Inequalities Exam Assignment Exam: Review and Inequalities Assignment
Module 4	Learn	Read: 1 item Watch: 4 items
	Apply	HW: Sections 2.1-2.4 Assignment Discussion: True and Not-True Quiz: MQ Intro. to Functions (2.1-2.4)

When	Topic	Notes
Module 5	Learn	Read: 1 item Watch: 3 items
	Apply	HW: Sections 2.5-2.8 Assignment Quiz: MQ More on Functions (2.5-2.8)
Module 6	Learn	Read: 1 item Watch: 3 items
	Apply	HW: Sections 3.1-3.4 Assignment Quiz: MQ Polynomial Functions (3.1 - 3.4)
Module 7	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 3.5-3.7 Assignment Quiz: MQ Rational Functions (3.5-3.7)
Module 8	Learn	Read: 1 item Watch: 2 items Explore: 1 item Review: 1 item
	Apply	Written Work Submission: Basic, Polynomial, and Rational Functions Exam Assignment HW: Basic, Polynomial & Rational Func. Assignment Exam: Basic, Polynomial & Rational Func. Assignment
Module 9	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 4.1-4.3 Assignment Quiz: MQ Exponential & Logarithmic Func. (4.1-4.3)
Module 10	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 4.4-4.6 Assignment Quiz: MQ More on Exp. & Log. Functions (4.4-4.6)
Module 11	Learn	Read: 1 item Watch: 2 items Review: 1 item
	Apply	HW: Exp. and Log. Func. Exam Review Assignment Written Work Submission: Exponential and Logarithmic Functions Exam Assignment Exam: Functions: Exponent. & Logarithm. Assignment

When	Topic	Notes
Module 12	Learn	Read: 1 item Watch: 3 items
	Apply	HW: Sections 5.1 and 5.2 Assignment Quiz: MQ Systems of Linear Equations (5.1-5.2)
Module 13	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Section 5.5 Assignment
Module 14	Learn	Read: 1 item Watch: 2 items Explore: 2 items Review: 1 item
	Apply	HW: Final Exam Review Assignment Written Work Submission: Final Exam Assignment Exam: Final Assignment