

Elementary Functions and Coordinate Geometry

MATH-128

CG Section 8WK 11/08/2019 to 04/16/2020 Modified 04/06/2022

Course Description

A pre-calculus course that includes the study of elementary functions, their graphs and applications including polynomial, rational, algebraic functions, exponential, logarithmic and circular or trigonometric functions. For students with strong high school preparation in mathematics but who are not ready for calculus.

Requisites

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

Rationale

This course is designed to develop the concepts from algebra and trigonometry that will be necessary for elementary calculus. The course will demonstrate the usefulness of the concept of functions in describing various phenomena.

Course Learning Outcomes

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

- A. State selected definitions, identities, properties, and theorems related to algebra and trigonometric concepts necessary to prepare students for elementary calculus.
- B. Demonstrate proficiency by working exercises that use the definitions, identities, properties, and theorems from Objective A above.
- C. Demonstrate problem solving by using Polya-like strategies.

General Education Foundational Skill Learning Outcomes (FSLOs): Technological Solutions and Quantitative Reasoning

- 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 \(https://bncvirtual.com/liberty\)](https://bncvirtual.com/liberty)

Additional Materials for Learning

- A. Computer with basic audio/video output equipment
- B. Internet access (broadband recommended)
- 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 Word
- E. A **NON-GRAPHING** scientific calculator is required.

Course Assignments

Textbook readings and embedded videos

Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in the Course Overview.

Homework Assignments (15)

The student will complete assignments within WebAssign. The student will be allowed 5 attempts to answer each question. A score of 70% must be obtained to go on to the next assignment, quiz, or test for that week (CLO: A, B, C; FSLO: TSQR 1, 2, 3).

Quizzes (7)

Each quiz will cover the Learn material for the assigned Modules: Weeks. Each quiz will be open-book/open-notes and be completed in WebAssign. The student will have 2 attempts at each quiz (CLO: A, B, C; FSLO: TSQR 1, 2, 3).

Quiz: Exams (3)

The student will complete exams during Modules: Weeks 2, 4, and 6. Each exam will be 1 hour and 30 minutes, open-book/open-notes, and will cover 2 modules/weeks of material. The tests will be taken in WebAssign. Written work for the exams must be submitted in Canvas immediately after completing the exam in WebAssign and before the due date/time. The student should plan to complete the WebAssign exam AND submit a scan or picture of the written work in Canvas before the due date/time for the exam. Exams submitted without accompanying written work will not be accepted. There is only one attempt for exams (CLO: A, B, C; FSLO: TSQR 1, 2, 3).

Quiz: Cumulative Final Exam

The Quiz: Cumulative Final Exam will be completed using WebAssign software. The exam will be 2 hours and 30 minutes, open notes/open book, and must be completed in a single sitting. Written work for the final exam must be submitted in Canvas. Only 1 attempt is given for the Quiz: Final Exam (CLO: A, B, C; FSLO: TSQR 1, 2, 3).

Course Grading

Course Requirements Checklist	10
Homework Assignments (15 at 20 pts ea)	300
Quiz Assignments (7 at 20 pts ea)	140
Quiz: Exam (3 at 120 pts ea)	360
Quiz: Cumulative Final Exam	200
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%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613719138&sdata=%2BNBTsPOoXuHAPLfISQRugK7cRSuV6UyC7qD3agf3l2k%3D&reserved=0) (<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%7Cbf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613719138&sdata=%2BNBTsPOoXuHAPLfISQRugK7cRSuV6UyC7qD3agf3l2k%3D&reserved=0>) 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%7Cd91431fa6) (<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.liberty.edu%2Findex.cfm%3FPID%3D791&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6>

[ac547056b5408d833029e1a%7Cbaf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=DjjhMiRBFnF%2B2ZJUC8eBd1OdNb26S9ADukODYsilXIA%3D&reserved=0](https://nam04.safelinks.protection.outlook/?url=https%3A%2F%2Fwiki.os.liberty.edu%2Fdisplay%2FIE%2FUnofficial%2BWithdrawals&data=02%7C01%7Caccollins2%40liberty.edu%7Cd91431fa6ac547056b5408d833029e1a%7Cbaf8218eb3024465a9934a39c97251b2%7C0%7C0%7C637315433613729132&sdata=DjjhMiRBFnF%2B2ZJUC8eBd1OdNb26S9ADukODYsilXIA%3D&reserved=0)). 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 \(https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes\)](https://wiki.os.liberty.edu/display/IE/Dropping+and+Adding+Online+Classes)). 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>).

Schedule

When	Topic	Notes
Course Overview	Student Acknowledgements	Course Requirements Checklist

When	Topic	Notes
Module 1: Week 1	Learn	Read: 1 item Watch: 2 items Interact: 1 item
	Apply	HW: Sections 1.1-1.5 Assignment HW: Section 1.8 Assignment Quiz: Chapter 1
Module 2: Week 2	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 2.1-2.4 Assignment HW: Sections 2.6-2.8 Assignment Quiz: Chapter 2 Exam: Chapters 1 - 2 Assignment Written Work: Quiz: Chapters 1 – 2 Exam Assignment
Module 3: Week 3	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 3.1-3.3 Assignment HW: Sections 3.4-3.6 Assignment Quiz: Chapter 3
Module 4: Week 4	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 4.1-4.3 Assignment HW: Sections 4.4-4.5 Assignment Quiz: Chapter 4 Exam: Chapters 3 - 4 Assignment Written Work: Quiz: Chapters 3 – 4 Exam Assignment
Module 5: Week 5	Learn	Read: 1 item Watch: 1 item
	Apply	HW: Sections 5.1-5.3 Assignment HW: Sections 5.4-5.5 Assignment Quiz: Chapter 5
Module 6: Week 6	Learn	Read: 1 item Watch: 1 item

When	Topic	Notes
	Apply	<p>HW: Sections 6.1-6.3 Assignment</p> <p>HW: Sections 6.4-6.6 Assignment</p> <p>Quiz: Chapter 6</p> <p>Exam: Chapters 5 - 6 Assignment</p> <p>Written Work: Quiz: Chapters 5 – 6 Exam Assignment</p>
Module 7: Week 7	Learn	<p>Read: 1 item</p> <p>Watch: 1 item</p>
	Apply	<p>HW: Sections 7.1-7.3 Assignment</p> <p>HW: Sections 7.4-7.5 Assignment</p> <p>Quiz: Chapter 7</p>
Module 8: Week 8	Learn	<p>Read: 1 item</p> <p>Watch: 1 item</p>
	Apply	<p>HW: Sections 8.1-8.2 Assignment</p> <p>Exam: Chapters 1-8 Cumulative Assignment</p> <p>Written Work: Quiz: Chapters 1 – 8 Cumulative Exam Assignment</p>