

COURSE:	MA240D&N-D Calculus and Analytical Geometry 1
CREDIT:	4 Semester Hours
SEMESTER:	Fall 2021 - Cycle 3&4
INSTRUCTOR:	Kurt Bricker
CONTACT INFO:	Phone: 570-996-6023 -or- 570-665-1891 (mobile) E-mail: kurt.bricker@calvary.edu
MEETING TIME:	Thursdays, 6:00p-7:30p
DELIVERY:	Blended (recorded lecture with online classroom for discussion and problem solving)

Calculus provides the background for solving complex mathematical problems and developing analytical reasoning. It provides a foundation for additional study in science, technology, engineering, math, and other areas in liberal arts. In addition, calculus gives us greater appreciation for God as it is in many ways the “language” of His creation.

I. COURSE DESCRIPTION:

MA240D&N-D (4 hrs) This course covers an introduction to calculus. Topics include functions, limits and continuity, derivatives, applications of derivatives, integrals, and applications of definite integrals from the biblical worldview. (Prerequisite: MA140 or equivalent with a C or higher)

This is a blended class, meaning that both campus and online students take this class together. Campus students attend the classes in person, online students attend the classes via the online classroom. All interaction and assignments for campus and online students are done in the online classroom.

II. COURSE OBJECTIVES:

A. General competencies to be achieved. The student will:

- 1) Demonstrate an understanding of the fundamental concepts of calculus from a biblical worldview.
 - a. Program Objectives 1 and 5.
 - b. Assessments – chapter review questions and exams.

B. Specific competencies to be achieved. The student will:

- 1) Demonstrate the ability to apply the concepts of calculus to real-world applications.
 - a. Program Objectives 1 and 5.
 - b. Assessments – chapter review questions and exams.
- 2) Read literature covering the biblical worldview of calculus and demonstrate your understanding of these concepts by reporting on the literature clearly and concisely.
 - a. Program Objectives 2, 3, and 4.
 - b. Assessments – Creation apologetics essays.

III. REQUIREMENTS: All students will be expected to:

- Participate frequently and make regular progress.
- Complete reading assignments, homework, essays, and exams on schedule.

IV. METHODS

- A. LECTURES:** Lectures will consist of material from the book and additional material from a variety of sources. Lectures will be posted on Canvas and consist of material from the book and additional material. Students should take notes as the homework questions will be directly related to the lectures.
- B. READING AND HOMEWORK QUESTIONS:** Not every topic in your textbook will be addressed. Emphasis will be placed on the most important concepts and practical applications. It is imperative that you complete the homework problems to understand the material and to do well on tests. Homework assignments will be submitted using the MyLab Math software.
- C. EXAMS:** Questions used for the regular exams will be similar to the homework. Exam questions for the comprehensive portion of the final will be taken from the regular tests and will include new material covered since the last regular exam. Exams will be taken using the MyLab Math software. Students may not use the internet or any other source of help; except what is specified by the instructor. Exams *must* be proctored. The ProctorU test proctoring service will be used throughout the course; see the ProctorU addendum at the end of this syllabus.
- D. BIBLICAL WORLDVIEW ESSAYS:** The purpose of this portion of the class is to develop your ability to analyze the complex issues associated with the debate over creation and evolution from a biblical worldview and to learn that you can defend your faith (1 Peter 3:15) using science. You will read articles or watch videos and then prepare essays that demonstrate your understanding of the topics. The topics include such things as the nature of science, the origin of evolutionary deception, ways to recognize evolutionary deception, and a review of some of the key biological science issues associated with the debate.

Essays must follow the APA style according to the Publication Manual of the American Psychological Association, 6th edition except as noted in this paragraph. Essays should be around one-half page, single spaced, using Times New Roman 12 font. Essays should not be longer than one page. Do not include a title page or a reference page. Put a descriptive title and your name and date at the top of the page. Include the reference after the bottom of the essay. You will be graded on content and understanding of the topics. Your writing should be clear and concise. Proper writing style including clarity, grammar, and punctuation will be considered during

grading. Do not use first person. Discuss what the article or video said and means, not what you think about it. Make sure you use quotation marks as needed.

Academic Dishonesty

Plagiarism is defined as copying any part of a book or paper without identifying the author. This also includes taking another person's ideas and presenting them as your own.

E. LATE HOMEWORK, ESSAYS AND TESTS: Grades for late homework and essays will be reduced by 10% if turned in within one week after the due date. Grades for assignments turned in more than one week after their initial due date will be penalized by 25%. All assignments must be turned in within the cycle to receive credit for the course. Exams cannot be taken late without permission of the instructor.

F. HOW TO GET HELP:

As instructor, I have a vested interest in your success as a student; therefore, feel free to contact me via email or phone any time you have need (see email address and phone numbers above). Also, please bring any difficulties that you are having to my attention so that they may also be addressed during class time.

The Clark Academic Center (learning@calvary.edu) is dedicated to providing free academic assistance for all CU students. Student tutors aid with all facets of the writing process, tutor in various subject areas, prepare students for exams and facilitate tests. Please take advantage of this service.

Students with disabilities have the responsibility of informing the Accommodations Support Coordinator (aso@calvary.edu) of any disabling condition that may require support.

V. GRADING - See grading scale in the university catalog.

Homework sets	40%
Biblical worldview essays	10%
Regular Exams	35%
Final Examination (cumulative)	15%

VI. MATERIALS – Required [read below *thoroughly*]

A) **MyLab Math Software with eText:** It is **required** that you purchase access to the MyLab Math software and eText.

The MyLab Math tool will be used with this text during the Cycle; and is therefore *required*. The student may purchase the e-text with MyLab Math tool for use in this course (*a hard-copy text is not required*). For more information, see pearson.com.

University Calculus: Early Transcendentals, 4th edition
Authors: Hass, Heil, Bogacki, Weir, and Thomas
ISBN-13: 9780136880912
Pearson, 2020

This is *required* to complete the homework and tests. The software cost is *approximately* \$70. The eText is about \$40. It will also allow access to many on-line helps that are useful for learning this material. **Detailed instructions on how to purchase access to the software will be posted on Canvas. Do not purchase the software without first reading this!**

Each student will need a Pearson Course ID specific to this course. Students **MUST** purchase this through the class CANVAS website to ensure that they are in the correct MyLab Math course. Instructions will be provided.

B) The Bible is a required textbook in every course at Calvary University. To facilitate academic level study, students are required to use for assignments and research an English translation or version of the Bible based on formal equivalence (*meaning that the translation is generally word-for-word from the original languages*), including any of the following: New American Standard (NASB), English Standard Version (ESV), New King James (NKJV), or King James (KJV). Other translations and versions based on dynamic equivalence (*paraphrases, and thought-for-thought translations like NLT and NIV*) may be used as supplemental sources. Please ask the professor if you have questions about a particular translation or version.

VII. TENTATIVE CLASS SCHEDULE {may vary based on class mastery of material – any changes will be communicated by the instructor via Canvas }

Order of Lecture Topics

1. Functions
2. Limits and continuity
3. Introduction to Derivatives
4. Applications of derivatives
5. Introduction to Integrals
6. Applications of definite integrals

ProctorU Addendum

Calvary University uses ProctorU test proctoring service. ProctorU is a live online proctoring service that allows you to take your exam from the comfort of your home. ProctorU is available 24/7, however, **you will need to schedule your**

proctoring session at least 72 hours in advance to avoid any on-demand scheduling fees. Creating a ProctorU account is simple. You can do so by going to <https://go.proctoru.com/students/users/new?institution=2045>.

Students must read all information and comply with all directions below to be successful for their proctored exam experience. Calvary University hopes that students will have a smooth experience, and to decrease student anxiety and increase success, please use this guide to help you plan for your test. Please note that, per ProctorU, there will be penalties for students who miss their testing window. Technical trouble will not be an excuse for missing the window. Therefore, pay attention to all details within this guide, and all links included.

System Requirements: Please see the information below supplied by ProctorU for system requirements. If your computer does not have these capabilities, please consider borrowing a computer as you will still be required to complete the exam using the live proctor system with ProctorU. Please note that you will not be able to take your exam(s) in the Calvary University Library due to the activity that will be picked up in a public place.

In order to use ProctorU, you will need a high-speed internet connection, a webcam (internal or external), a Windows or Apple Operating System, and a government issued photo ID. ProctorU recommends that you visit <https://test-it-out.proctoru.com/> prior to your proctoring session to test your equipment. They recommend you click on the button that says "connect to a live person" to fully test out your equipment. If using Firefox, please make sure that you are using the current version of your Firefox browser and have downloaded the ProctorU extension available at <https://www.proctoru.com/firefox>.

Type	Minimum	Recommended	Calvary University Minimum
Web Camera	640×480 resolution	1280×720 resolution	1280×720 resolution
PC Users	Windows Vista	Windows 10 (10 S is not supported)	same
Mac Users	OS X 10.5 or higher	OS X 10.13 High Sierra	same
Internet Download Speed	.768 Mbps	1.5 Mbps	3 Mbps
Internet Upload	.384 Mbps	1 Mbps	2 Mbps

Speed			
RAM	1024 MB	2 GB	same
Ports	1935, 843, 80, 443, 61613, UDP/TCP	1935, 843, 80, 443, 61613, UDP/TCP	same

- Desktop computer or laptop (not a tablet, Chromebook or cell phone).
- Webcam and microphone (built-in or external) – test your webcam at <https://test.webrtc.org/>
- Connection to network with sufficient internet speed: at least 3 Mbps download speed and 2 Mbps upload – test internet speed at www.speedtest.net
- Operating systems: Windows Vista or newer, Mac OS X 10.5 – or newer
- Browser with pop-up blocker disabled: Google Chrome v39 or later, Mozilla Firefox v34 or later.

Additionally, please visit and review the test-taker resource center by going to <https://www.proctoru.com/proctoru-live-resource-center>. You should expect the startup process with the proctor to take about 10-15 minutes. However, this time will not affect your exam time. Please feel free to direct any questions to the student support team via the live chat within your account.

******If you have any questions or concerns, contact Proctor U’s technical support team 24/7 via their live chat support at <https://www.proctoru.com/contact-us>**

Costs for ProctorU exams are listed below and are payable to ProctorU at the time of the test. These costs assume that a student will schedule their exam at least 72 hours in advance of the exam start time:

- 60 minutes or less - \$8
- 61 – 120 minutes - \$10
- 121 – 180 minutes - \$12

For those not scheduling an exam at least 72 hours in advance, late scheduling charges are added in addition to the above fee structure. There are two options for late scheduling:

- “Take It Soon” allows a test to be scheduled less than 72 hours but more than 24 hours before the desired start time. This option includes an additional fee of \$8.00. (Total cost for a 60 minute exam scheduled as “Take It Soon” would be \$16.)

- "Take It Now" allows a test to be taken on-demand with no appointment needed. This option includes an additional fee of \$12.00. (Total cost for a 60 minute exam scheduled as "Take It Now" would be \$20.)

These options are for the convenience of the examinee. Any charges applicable to the examinee must be paid with a credit or debit card. The test taker will be required to enter payment information on a secure page connected to a third-party card processor. The page is encrypted and secure and ProctorU does not see or store any credit card data.

Examinees will be required to re-enter payment information each time new charges are incurred.