

Course Syllabus

Math 148: Calculus with Applications

Butler Community College
Mathematics Department

MA 148: Calculus with Applications
Semester: 201710

Class Information

CRN	Meeting Day(s)	Meeting Time	Site	Building	Room
1286	MW	11:00 - 12:25	Andover	6000 Building	6417
11631	F	12:30 - 3:30	Andover	5000 Building	5174N

INSTRUCTOR INFORMATION

Instructor Name: Justin M. Ryan

Instructor Contact Information:

Office: Andover 6000 Building, Room 6427

E-mail: jryan10@butlercc.edu (<mailto:jryan10@butlercc.edu>)

Web page: <http://geometerjustin.com/teaching/bc/> (<http://geometerjustin.com/teaching/bc/>)

Phone: (316) 218-6249

Slack (preferred): butlerccmath.slack.com (<http://butlerccmath.slack.com>)

To sign up for Slack: Click this [link](https://butlerccmath.slack.com/signup) (<https://butlerccmath.slack.com/signup>), then use your @butlercc.edu email to sign up. It's **free!** and easy to use. There are apps for all computer operating systems and all smart phone OS's. Once you're signed up, join the "channel" **#calcwapps**. This channel will be specific to your course.

*--Please read the **Slack Policy** in the Instructor Policies section below.*

Office Hours

Times	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 - 8:30					Office Hour
8:00 - 9:00		Office Hour		Office Hour	
11:30 - 12:30					Office Hour @ BOA 5000
3:30 - 4:00	Office Hour	Office Hour @ BOA 5000	Office Hour		

COURSE INFORMATION

Course Description

MA 148: Calculus with Applications

3 credit hours

Prerequisite: Placement score, or MA 131, MA 135, or equivalent with a C or better.

This course will enable the student to differentiate and integrate algebraic, logarithmic, and exponential functions, and apply those concepts to real world, business, and social science applications including marginal analysis.

Required Materials

Business Calculus, First Edition, by Calaway, Hoffman, and Lippman.

PDF available for **FREE** online: <http://www.opentextbookstore.com/buscalc/BusCalc.pdf>
(<http://www.opentextbookstore.com/buscalc/BusCalc.pdf>)

Supplemental Materials

A three-ring binder is suggested, as well as a hole-punch, which is to be "used relentlessly," as stated in the New York Times. I also recommend that you bring pens in various colors, in order to replicate what is on the board. You should bring your book every day, but the binder can be left at home. It will be used to organize the materials and hand-outs that are distributed in class, as well as your own notes.

Students will not "need" a graphing calculator in this class, but may find one very useful. Students may not use electronic devices of any kind on midterm exams, and may use free smart phone apps and free web sites in lieu of a graphing calculator on homework and in-class work.

Butler-Assessed Outcomes

The intention is for the student to be able to:

1. Interpret problems using mathematical symbols and notation
2. Analyze the graphs of various mathematical functions with the assistance of a graphing utility
3. Solve various types of equations and inequalities (including systems)

Learning PACT Statement

Butler prepares students to be principled, productive individuals who are responsible, involved lifelong learners. To accomplish this goal Butler has established a Learning PACT for the skills that learners need during their career and has integrated PACT skill-building activities and assessments through a variety of program coursework, extra-curricular activities, and other learning opportunities.

The BCCC Learning PACT consists of:

- P** = Personal Development Skills
- A** = Analytical Thinking Skills
- C** = Communication Skills
- T** = Technological Skills

The Learning PACT Skills are vital for any adult to function successfully in the ever changing world of the 21st century. Butler expects learners to be full partners in the learning process and as such to assume primary responsibility for their own choices.

Learning PACT Skills

Analytical Thinking Skills

Problem solving

Through the process of learning to solve multi-step problems and real world application problems, the student will develop not only the general concepts involved in problem solving,

but skills that can also be applied and transferred to real life analytical situations.

Communication Skills

Creation and delivery of messages

Through the process of working through word problems, the student will develop the ability to translate real world application problems from text into a relevant mathematical form.

Technological Skills

Discipline specific technology

Through the use of graphing calculators (or other *free* technology), the student will learn how to solve certain problems graphically or numerically.

Major Summative Assessment Task(s)

These learning outcomes and Learning PACT skills will be demonstrated by:

Completing a departmental final exam in which the student solves (A skill) relevant mathematical problems, including word problems (C skill), using a variety of analytic and graphical (T skill) methods.

Computer Use Expectation

Butler Community College expects students to be able to use computers, Internet and web-based materials proficiently both inside and outside the classroom to accomplish course outcomes. Courses may have discipline specific software requirements which will be denoted by schedule type "X". For any specific software requirements, refer to either the course outlines at <http://www.butlercc.edu/outline/> (<http://www.butlercc.edu/outline/>) or the bookstore at <http://www.butlercc.bkstr.com> (<http://www.butlercc.bkstr.com>).

Student Engagement Expectation

Butler Community College expects students to be engaged in the learning process. Engaged students are motivated, prepared for class, interact inside and outside of class with other students and faculty, and take responsibility for their own learning.

CLASS INFORMATION

Methods of Grading and Evaluation

The student will be evaluated on the basis of his/her performance on the following:

Grading Components

Items	Percentage
Week 1 Welcome Assignments	10
"Good Problem" Labs	10
Midterm Exams (2)	40
Final Project	20

Final Exam	20
Total	100

Note: Students must earn a score of **55% or better** on the **Final Exam** in order to receive a grade of C or better in this course, regardless of their average in other course work.

Submission Information: The "Week 1 Welcome Assignments" will be submitted *via* Canvas; Good Problems will be written in class, and submitted *via* Canvas; the Midterm and Final Exams will be written in class; the Final Project will be completed at home and turned in *via* Canvas.

Grading Scale

Grade	Points
A	87 - 100
B	77 - 86.99
C	70 - 76.99
D	60 - 69.99
F	0 - 59.99

Note: Final grades will not be curved nor rounded in any way.

Class Schedule

Week	Date	Learning Activities
1	17 - 20 Jan	Syllabus, Introduction, Technology Review of functions
2	23 - 27 Jan	Sections 2.1 - 2.2
3	30 Jan - 3 Feb	Sections 2.3 - 2.4
4	6 - 10 Feb	Sections 2.5 - 2.7
5	13 - 17 Feb	Section 2.8, 2.11

6	20 - 24 Feb	Midterm Exam 1 Applications Lab (Sections 2.9 and 2.10)
7	27 Feb - 3 Mar	Sections 3.1 - 3.2
8	6 - 10 Mar	The Fundamental Theorem of Calculus, in depth
9	13 - 17 Mar	Sections 3.3 and 3.4
10	20 - 24 Mar	NO CLASSES -- Spring Break
11	27 - 31 Mar	Section 3.5
12	3 - 7 Apr	Section 3.6
13	10 - 12 Apr	More on Integration NO CLASSES -- 13, 14 April 2017
14	17 - 21 Apr	Midterm Exam 2 Differential Equations
15	24 - 28 Apr	Numerical Methods and Differential Equations Discuss Final Project
16	1 - 5 May	Review for Final Exam Final Project due
	8 - 12 May	Final Exam

Note: The schedule and procedures in this course are subject to change in the event of extenuating circumstances. In particular, the schedule is **tentative**: it will almost certainly be adjusted to reflect student retention and performance. However, all exam dates should be considered as fixed.

INSTITUTIONAL POLICIES

Attendance

Student success in college is dependent upon full participation in class activities. Because classroom activities are intended to help students learn, it is expected that students will attend all class meetings and activities. Students are expected to be on time for each session and/or log in regularly, have the required textbook and materials, and make satisfactory progress in the class. If students must be absent, they should make arrangements in advance with their instructors, if at all possible. Students are responsible for notifying instructors of any absence.

Procedural Clarifications

- All instructors will maintain attendance as required for reporting. Excessive unexcused absences may result in a student being withdrawn from the course by the instructor. Withdrawal from a course may affect a student's financial aid.
- For lecture/blended courses, excessive unexcused absences are defined as missing more than 20% of the course's scheduled meeting time. Students who have missed more than 20% of the scheduled meeting time and are not passing will be dropped by the instructor. Academic departments have the discretion to enact stricter attendance policies.
- For an online student to make satisfactory progress in the course, the student must login regularly (at least twice per week) and participate in the assigned learning activities. Students who have not logged in regularly and who are not passing will be dropped by the instructor.
- If a student is withdrawn by the instructor a — (withdrawn by teacher) will be recorded on his/her permanent record. An instructor cannot drop a student who is regularly attending for below average performance. A faculty member cannot drop a student after the published last day to drop. Any exceptions to this policy must be approved by the Dean. Students who want to drop the course may do so before or on the published last day to drop.
- Student absences for approved college activities will not accrue as excessive unexcused absences. Students will be allowed to make up work missed as a result of college approved activities. Students will make up work before the absence or within one week after returning to class. Students will check with each of their instructors prior to the absence to arrange for makeup times. Activity sponsors will publish a timely list of students who will be absent because of an approved college activity.

Academic Integrity

Butler Community College defines academic integrity as learning that leads to the development of knowledge and/or skills without any form of cheating or plagiarism. This learning requires respect for Butler's institutional values of quality, service integrity, and caring as well as its Learning College Principles. All Butler students, faculty, staff, and administrators are responsible for upholding academic integrity.

Cheating is giving, receiving, or using unauthorized help on individual and group academic exercises such as papers, quizzes, tests, and presentations through any delivery system in any learning environment. This includes impersonating another student, sharing content without authorization, fabricating data, and altering academic documents, including records, with or without the use of personal and college electronic devices.

Plagiarism is representing or turning in someone else's work without proper citation of the source. This includes unacknowledged paraphrase, quotation, or complete use of someone else's work in any form. It also includes citing work that is not used and taking credit for a group project without contributing to it.

Faculty members have discretion in handling student violations of the academic integrity policy, but faculty members must consult with their deans or administrators. Faculty members must inform students of violations and their consequences in writing. Students who violate the academic integrity policy will sustain academic consequences set by faculty members, which may include, but are not limited to:

- A warning.
- A zero or failing grade on the academic exercise with repetition of the exercise allowed for reduced or the same amount of original credit.
- A zero or failing grade on the exercise with no repetition allowed.
- A failing grade in the course and removal from it.

Students who violate the academic integrity policy are also subject to administrative consequences, which may include, but are not limited to:

1. Reprimand.
2. Probation.
3. Being barred from the course and/or program.
4. Reduction or cancellation of a college scholarship.
5. Suspension from college activities.
6. Suspension from the college for a set time.
7. Expulsion from the college.

Students will be informed of administrative consequences in writing.

Students who have been accused of academic integrity violations may follow the Academic Appeals process listed under Student Grievance Procedures. This process assures due process and procedure. Generally, if dissatisfied with the consequences set by faculty members, students may appeal in writing to appropriate deans or administrators. If dissatisfied with the dean's or administrator's decision, students may appeal to the Student Review and Appeals Committee, which consists of student and faculty representatives and the Vice President for Student Services. If dissatisfied with the Student Review and Appeals Committee's decision, students may appeal to the Vice President for Academic Affairs, whose decision is final. Students will be notified of appeal results in writing.

Incompletes

If a student who has been making a passing grade cannot complete the work in a course due to illness (or other sufficient reason), an instructor, at his/her discretion, may enter an "I" temporarily on the student's record at the end of the term when the final grade roster is submitted. It is the student's responsibility to initiate the verbal or written contract with the instructor. The "I" will change to an "F" if the work is not completed within the first 6 weeks of the following semester (excluding summer), unless an extension of time is granted by the agreement of the appropriate dean and the instructor of the course. The student is entirely responsible for completing the work which will remove the "I."

Disability Services Statement

Anyone needing information concerning special needs should contact your instructor after class or the Disability Services Coordinator, at 322-3321 or 733-3321.

Social Media Policy

Butler Community College supports the use of technology inside and outside the classroom. This support includes the use of social media communication formats such as Facebook and Twitter. This support comes with the expectation that students in Butler programs will uphold the ethical standards of their prospective professions and the Butler Community College Student Code of Conduct. Federal regulations regarding privacy such as Health Insurance Portability and

Accountability Act and Family Education Rights and Privacy Act (HIPAA and FERPA) apply to all personal and academic communication. Student use of photography and/or recording devices is prohibited in all clinical, laboratory, studio, and performance sites, unless formal permission of the instructor of record is granted before the fact.

It is the expectation that students have read and understand the Student Code of Conduct and Federal regulations related to privacy (HIPAA and FERPA). Noncompliance with this policy will result in disciplinary action which may include failure of a course, probation, suspension and/or dismissal from the program.

INSTRUCTOR POLICIES

Attendance

Attendance is required. If you are not present, you will not be able to complete the activities that correspond to that day's discussion and work in class. Students are asked to be on time, and to notify me if they will be absent. ***Students are expected to observe common norms of civility in class, and in interactions with me and with classmates outside of class.***

Late/Make-up Assignments

If you are absent, it is your responsibility to find out what you missed **on your own**. (Don't ask me what you missed!) If you know in advance that you must miss an exam, please make arrangements with me as early as possible to schedule a time to take the exam.

Drop Info

A student will be dropped from the course if they have been absent from 20% of the classes and have a grade of "F". The last date for student initiated withdrawals is **Monday, 17 April 2017**. Failure to attend class without dropping will result in the grade earned, including 0's for missed work.

Slack Policy

Slack is a free communication and collaboration website that allows me to easily share important course-related information with you. It also allows you to chat directly with me, or set up private chats to discuss the course/content with your peers. To register, simply go to [Slack](https://butlerccmath.slack.com/) (<https://butlerccmath.slack.com/>). You should register using your @butlercc.edu email address. The website should then guide you through a tutorial of how to use the site.

Students must communicate with fellow students and with the instructor in a civil, professional, appropriate fashion. Abusive comments or language in public or private messages will **NOT** be tolerated. Students who do not abide by this basic rule will be punished to the full extent outlined in the Butler CC institutional policy on abuse. Students who believe that they are being abused by another student or by the instructor should notify someone immediately.

Where to find course content on the Internet

Students will be able to find the Course Syllabus and their grades in **Canvas**. Students will also submit the Week 1 Welcome Assignments, Good Problem Labs, and Final Project *via* Canvas. *Canvas will not be used for any other purposes in the class.* In particular, **DO NOT MESSAGE ME IN CANVAS**. I will not respond.

All messages should be sent through **Slack**, or to my **email** (jryan10@butlercc.edu (<mailto:jryan10@butlercc.edu>)). All announcements from the instructor to the class will be made *via* **Slack**.

All course documents, including notes, handouts, links to (potentially) useful web pages, exam solutions, *etc*, will be posted on my [personal web page](http://geometerjustin.com/teaching/alg/) (<http://geometerjustin.com/teaching/alg/>).

DEPARTMENTAL POLICIES

Policy

If a student enrolls in a class without the necessary prerequisite, that student may be dropped at the discretion of the instructor.

Tutoring:

Butler Community College offers several options for face-to-face and online tutoring (free of charge) to students currently enrolled in BCC Math courses. More information can be found at the Butler CC Tutoring web page ([link \(http://www.butlercc.edu/tutoring/index.cfm\)](http://www.butlercc.edu/tutoring/index.cfm)).

Students who attend class, do the assignments, and follow instructor policies have the best chance for success in completing the course.

Graphing calculators are "required" in all Math courses numbered 131 (College Algebra with Review) and higher. Help with graphing calculators may be found at the following [link \(http://www.butlercc.edu/mathematics/graphingcalculatorhelp.cfm\)](http://www.butlercc.edu/mathematics/graphingcalculatorhelp.cfm).