



Northcentral Technical College Syllabus

Course Number 10-804-198 **Course Title** Calculus 1

Course Description: Analyze and graph algebraic expressions, especially conic sections. Develop an intuitive understanding of limits, derivatives and integrals. Apply the derivative and the integral to certain physical problems.

Total Credits: 3

Total Hours: 115 (32 weeks)

Start Date: September 3, 2019

End Date: May 15, 2020

Meeting Times/Location: 2nd Hour Daily from 8:47-9:31 am in Room 201

Mode of Delivery/Type of Instruction: In Person Lecture

Pre/Corequisites: 10-804-195 COLLEGE ALGEBRA W/APPS or 10-804-115 COLLEGE TECHNICAL MATHEMATICS 1 and 10-804-116 COLLEGE TECHNICAL MATHEMATICS 2, or 10-804-113 COLLEGE TECHNICAL MATHEMATICS 1A and 10-804-114 COLLEGE TECHNICAL MATHEMATICS 1B.

Textbook(s) Finney, Ross L., Franklin D. Demana, Bert K. Waits, and Daniel Kennedy. *Calculus: Graphical, Numerical, Algebraic*, 3rd ed. Boston: Pearson, 2007. ISBN 0-13-201408-4

Learner Supplies TI-84 graphing calculator

Instructor Information:

Instructor Name	Troy Bargender
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Phone	715.687.4311, ext. 2201
Office Location	Room 201, Stratford High School
Instructor Office Hours	Daily from 9:35-10:00 am & 2:30-3:30 pm

Instructor Information

Please feel free to email or phone me using the contact information provided. I will respond to your message within 24 hours or 1 day. When leaving a phone message, please speak slowly, include your name, course, return number and reason for calling. All emails should include your full name, course name and a detailed, professional message.

Learning Outcomes

Soft Skills

Soft Skills are broad outcomes or skills that every graduate of an NTC program is expected to achieve. These skills go beyond the context of a specific course or program and are the skills employers tell us they expect employees to have. For you to meet these demands, NTC has identified seven Soft Skills that are important to every area of learning. These Soft Skills are: Communicate Effectively, Act Responsibly, Work Productively, Work Cooperatively, Demonstrate Integrity, Think Critically and Creatively and Develop Global Awareness. All seven Soft Skills will be focused on in this course.

General Education Outcomes

The General Education Outcomes from the General Education Assessment Committee are embedded in all of our General Education courses.

G. E. O. (6) Apply appropriate skills and concepts to solve real world problems.

Course Competencies

Competencies are what learners will be able to do as a result of the learning experience. In this course the competencies that you must demonstrate are:

1. Find limits and continuity of functions.
2. Calculate derivatives for algebraic functions.
3. Calculate derivatives of trigonometric functions.
4. Calculate derivatives of exponential and logarithmic functions.
5. Use derivatives to solve applied problems.
6. Graph and analyze functions using derivative tests.
7. Approximate integrals with numerical methods.
8. Introduce integrals of algebraic functions.

Learning objectives for these course competencies can be referenced in Canvas.

Grading and Assessment Information

Letter grade	% or Points needed to achieve grade *All competencies must be met to earn a C or above
A	94.0 – 100% and has met all course competencies
A-	90.0 – 93.9% and has met all course competencies
B+	88.0 – 89.9% and has met all course competencies
B	82.0 – 87.9% and has met all course competencies
B-	80.0 – 81.9% and has met all course competencies
C+	78.0 – 79.9% and has met all course competencies
C	70.0 – 77.9% and has met all course competencies
D	65.0 – 69.9% and/or has not met all course competencies
F	less than 65.0% and has not met all course competencies

Letter grades on chart represent NTC's grading scale. **Please note there are no C-, D+ or D- grades.*

Assessment Information

This course is a performance-based course, designed for your success. Learning modules will be studied over the course of the semester. Each module will have assessment activities or Performance Assessment Tasks (PATs) which will evaluate your performance of the course competencies. Your grade will be based on you being able to demonstrate all course competencies. Final course grades can be viewed by going to www.ntc.edu, clicking on "myNTC" and following the instructions listed.

In this course your performance will be assessed in the following methods:

Grading System

Grades will be determined as follows:

- 15% - Homework/In-class assignments
- 15% - Quizzes
- 50% - 4 Unit Tests
- 20% - Semester Exam

All assessments will be graded and scores entered into the online gradebook within three days of completion. All assignments are considered late if not handed on the due date. Students who are not meeting the expectations in this course are expected to meet with me for extra instruction.

Attendance and Participation

As an adult learner, consistent attendance and participation in this course is essential for your success. No one else can be a "stand in" for you in the learning process. You will be held accountable for all assigned activities. Demonstrating these behaviors will help you meet NTC's Soft Skills and will help prepare you for future employment.

As your instructor, I will make reasonable allowances for personal illness, legitimate absences which accommodate the Americans with Disabilities Act (ADA) and absences for sincerely held religious beliefs. Whenever possible, please contact me prior to an absence to make arrangements for missed course work. Unexcused or excessive absences, however, will have a negative impact on your success in this course.

Because others are depending on you to keep the course moving, you have an obligation to meet deadlines for completing assignments and postings. As a learner, you also have an obligation to follow guidelines of Netiquette.

For online courses, it is suggested you log on and actively participate in the course regularly. Examples of appropriate participation would be an entry into the threaded discussion, submission of an assignment, or participation in group work.

Flexible Online Courses: While this course has flexible assignment deadlines, you must follow the same "No Show" policy as other courses. To complete this course by the end of the semester, you are strongly encouraged to complete assignments each week. If you run into issues during the semester, please contact your designated advisor as soon as possible to help you work out a plan to ensure course completion.

No Show/Drop/Cease to Attend: Students who have never attended class or for an online class do not complete a documented academic activity by the 10% point of class will be considered a "No Show" and will be removed from the course. In flexible start courses each student's 10% date is dependent on their start date. Please look in your calendar on myNTC to check your individual withdrawal dates or contact your advisor with questions. Please note students who are considered a "No Show" are still responsible for the course tuition and fees. If you wish to drop this course once it is underway, you may withdraw within the first 80% of the course. Please follow the information under the NTC Student Guidelines and Procedures (website is listed below) to officially withdraw from the course or to view course refund/withdrawal policies. If you cease to attend and do not "officially" withdraw from this course before it is 80% complete you may receive an "F" for this course.

Financial Aid Satisfactory Academic Progress (SAP) Standards

The U.S. Department of Education requires NTC to document attendance and satisfactory academic progress as part of the compliance with federal financial aid regulations. Students receiving Title IV Federal Aid funds are required to have regular attendance and satisfactory academic progress in their courses to receive federal aid. Students must maintain a minimum 2.0 cumulative GPA in addition to a cumulative course completion rate of 67%. Students cannot exceed attempted credit hours above 150% of their required degree plan. If a student does not maintain the required standards, the student may lose financial aid eligibility.

If at any point you consider dropping this or any other course, please be advised that the decision to do so has the potential to affect your current and future financial aid eligibility. Please visit <https://www.ntc.edu/financial-aid/policies/satisfactory-academic-progress> for more information about financial aid Satisfactory Academic Progress. It is recommended that you schedule a meeting with your academic advisor or contact the Financial Aid Office to discuss dropping a course before doing so.

Student Success/Academic Support

Please review all of the NTC student guidelines and procedures found on the [NTC website](http://www.ntc.edu/current-students/guidelines-procedures):
<http://www.ntc.edu/current-students/guidelines-procedures>

Starfish

Throughout the term, you may receive emails from Starfish® regarding your course grades or academic performance. Starfish is an online resource found on my.comnet.edu that allows faculty, staff, and current students to easily connect, find resources, and communicate to help promote overall student success. Please pay attention to these emails and consider taking the recommended actions. They are sent to help you be successful!

In addition, your instructor may:

- (1) request that you schedule an appointment through Starfish
- (2) refer you to a specific campus resource, such as tutoring, career counseling, or transfer counseling. You may also be contacted directly by one of these services directly.
- (3) meet with your advisor

Academic Resource Center

The Academic Resource Center (ARC) provides academic support that is specifically designed to assist students who are currently enrolled in a post-secondary class at Northcentral Technical College. Professional and peer tutors provide support for all instructional areas in a variety of formats including in person and live virtual sessions.

Please visit the following sites to learn more about these services.

[Academic Resource Center](http://www.ntc.edu/current-students/academic-resource-center): <http://www.ntc.edu/current-students/academic-resource-center>

Academic Accommodations

NTC is committed to providing reasonable accommodations that allow students with disabilities to fully participate in the technical college environment. If you are a student with a documented disability and believe you could benefit from academic accommodations, please contact Disability Services at 715.803.1469 or visit **[Disability Services](http://www.ntc.edu/disability-services)**: <http://www.ntc.edu/disability-services>.

Title IX

Northcentral Technical College prohibits all forms of discrimination, harassment, intimidation, and coercion on campus and at College related activities and functions. NTC is required to investigate all allegations regarding sex discrimination and sexual misconduct under Title IX of the Education Amendments of 1972.

Sexual misconduct incorporates a wide range of behaviors including sexual assault (which includes rape and any kind of nonconsensual sexual contact), sexual harassment, intimate partner violence, stalking, voyeurism, and any other conduct of a sexual nature that is nonconsensual, or has the purpose or effect of threatening, intimidating, or coercing another person.

Note that by law, all NTC staff are mandated to report any potential Title IX violations (sexual misconduct) for investigation. The only individual on campus who can confidentially hold a potential Title IX violation

are the staff through Peaceful Solutions, our contracted vendor for counseling services. Peaceful Solutions can be reached at 715-803-1797.

Students should report any potential Title IX violations (sexual misconduct) for investigation. Students can report potential Title IX violations by completing a Maxient report (found on the intranet), calling the NTC Title IX Coordinator at 715-803-1057, or visiting or calling NTC Security at 715-803-1111.

Course Revisions

In this syllabus, I have provided course information and a tentative schedule to guide your learning. I do, however, reserve the right to revise this information so that I may offer you the most current content and effective educational experiences. I will communicate any syllabus or schedule changes to you in a timely manner to support your success in this course.

Class Schedule

Students are asked to view the video ([Plan, Prepare, React](#)) located within the help menu of Canvas. View the video outside of class, during the first week of class. Faculty will discuss the video with students specific to the learning environment for the classroom.

Class Schedule

Date	Competencies/Learning Objectives	Learning Activities	PATs
Week 1		Pre-Calculus Review	
Week 2		Pre-Calculus Review	Review Quiz
Week 3	Find limits and continuity of functions.	Chapter 2: Limits and Continuity	Quiz 2.1-2.2
Week 4	Find limits and continuity of functions.	Chapter 2: Limits and Continuity	Quiz 2.3-2.4
Week 5	Find limits and continuity of functions.	Chapter 2: Limits and Continuity	Chapter 2 Test
Week 6	Calculate derivatives for algebraic functions.	Chapter 3: Derivatives	
Week 7	Calculate derivatives for algebraic functions.	Chapter 3: Derivatives	Quiz 3.1-3.3
Week 8	Calculate derivatives of trigonometric functions.	Chapter 3: Derivatives	
Week 9	Calculate derivatives of trigonometric functions.	Chapter 3: Derivatives	Quiz 3.4-3.6
Week 10	Calculate derivatives of exponential and logarithmic functions.	Chapter 3: Derivatives	
Week 11	Calculate derivatives of exponential and logarithmic functions.	Chapter 3: Derivatives	Quiz 3.7-3.9
Week 12	Calculate derivatives of algebraic, trigonometric, and logarithmic functions.	Chapter 3: Derivatives	Chapter 3 Test
Week 13	Use derivatives to solve applied problems.	Chapter 4: Applications of Derivatives	

Week 14	Use derivatives to solve applied problems.	Chapter 4: Applications of Derivatives	Quiz 4.1-4.3
Week 15	Graph and analyze functions using derivative tests.	Chapter 4: Applications of Derivatives	
Week 16	Graph and analyze functions using derivative tests.	Chapter 4: Applications of Derivatives	Chapter 4 Test
Week 17	Midyear Review	Review for 1st semester exam	1st semester exam
Week 18	Approximate integrals with numerical methods.	Chapter 5: The Definite Integral	
Week 19	Approximate integrals with numerical methods.	Chapter 5: The Definite Integral	Quiz 5.1-5.3
Week 20	Introduce integrals of algebraic functions.	Chapter 5: The Definite Integral	
Week 21	Introduce integrals of algebraic functions.	Chapter 5: The Definite Integral	Chapter 5 Test
Week 22	Approximate integrals with numerical methods.	Chapter 6: Differential Equations & Modeling	
Week 23	Approximate integrals with numerical methods.	Chapter 6: Differential Equations & Modeling	Quiz 6.1-6.3
Week 24	Approximate integrals with numerical methods.	Chapter 6: Differential Equations & Modeling	
Week 25	Approximate integrals with numerical methods.	Chapter 6: Differential Equations & Modeling	Chapter 6 Test
Week 26	Find volumes of solids of revolution.	Chapter 7: Applications of Definite Integrals	
Week 27	Find volumes of solids of revolution.	Chapter 7: Applications of Definite Integrals	Quiz 7.1-7.3
Week 28	Apply integrals to solve problems involving centroids, moments of inertia, work, and pressure	Chapter 7: Applications of Definite Integrals	
Week 29	Apply integrals to solve problems involving centroids, moments of inertia, work, and pressure	Chapter 7: Applications of Definite Integrals	Chapter 7 Test
Week 30	Final Review	Review for Final Exam	
Week 31	Final Review	Review for Final Exam	
Week 32	Final Review	Review for Final Exam	Final Exam