BISMARCK STATE COLLEGE

Bismarck State College, an innovative community college, offers high quality education, workforce training, and enrichment programs reaching local and global communities.

CURRENT SEMESTER: Fall 2018

COURSE: Math 165 Calculus I

CREDIT HOURS: 4 semester hours

INSTRUCTOR CONTACT INFORMATION:

David Peterson
Associate Professor of Mathematics
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COURSE MATERIALS:

Accessible from Blackboard eText (optional print): APEX Calculus I Late Transcendentals, adapted from APEX Calculus by Gregory Hartman, Ph.D. Department of Applied Mathematics Virginia Military Institute
Required reading guide: APEX Calculus I Late Transcendentals Reading Guide
Required calculator: You must have a graphing calculator, as it will be used extensively. I recommend a TI-83^+ or TI-84^+, as this is the model that will be used in class demonstrations.
NOTE: Calculators with a computer algebra system (TI-89, TI-Nspire, etc.), cell phone calculators, downloadable apps for other electronic devices are prohibited on exams.

COURSE DESCRIPTION: *Prerequisite:* Math 107, or qualifying ACT or placement score. In this course, topics we will cover include analytic geometry, limits and continuity, derivatives with applications, L'Hôpital's rule, anti-differentiation, the Fundamental Theorem of Calculus, and numerical integration.

COURSE OUTCOMES:

Course Learning Outcomes	Program Learning Outcomes	Institutional Essential Learning Outcomes (IELOs)
Understand the concepts of the derivative as representing rate of change and the definite integral as representing area and distance	Demonstrate competence in a variety of mathematics courses including algebra, finance, calculus, differential equations, linear algebra, and statistics by analyzing, mathematically modeling, and solving a variety of problems, then interpreting the solution utilizing reflective decision making.	Quantitative Literacy
Develop problem solving skills, especially showing how to model a written description of a physical situation with a function, differential equation, or an integral		Quantitative Literacy
Communicate mathematics by explaining solutions both verbally and in written sentences and judging the reasonableness of said solutions		Quantitative Literacy
Use technology to help solve problems, experiment, interpret results, and support conclusions		Quantitative Literacy

* The BSC Institutional Essential Learning Outcomes can be found at https://bismarckstate.edu/uploads/0/BSCsInstitutionalEssentialLearningOutcomes.pdf

ACTIVE LEARNING: In addition to educational strategies such as reading, listening, and reflecting, when appropriate this class makes use of learning techniques commonly known as active learning. Students should expect to participate in active learning techniques such as discussions and presentations, small group activities, writing, problem-solving, movement, case studies, role-playing, etc. These activities promote analysis, synthesis, and evaluation of class content in order to improve student learning outcomes.

UNIT OBJECTIVES: As defined by the North Dakota University System upon completion of the course, students will:

1. be able to work with functions, their derivatives, and their applications.
2. be able to work with definite integrals and their applications.
3. be able to work with the notion of limits and their applications.
4. be able to understand continuity.
5. be able to use the Mean Value Theorem and its applications.
6. demonstrate an understanding of how to solve problems using the Fundamental Theorem of Calculus.

ASSESSMENT METHODS: Your final grade will be determined using the following categories. Assessments will be tied to both NDUS objectives as well as the course learning goals.

Quizzes/Assignments (20%): Homework (textbook and reading guide), quizzes, discussions, and in-class assignments should be expected regularly. Quizzes will have a time limit and typically given at the beginning of class, so timeliness is important. Discussions will be available in Blackboard. Reading guide assignments are to be completed before class and may be subject to review and grading. In-class assignments are to be completed before class is over unless otherwise indicated. No make-ups will be allowed for homework, quizzes or assignments; late assignments will not be accepted.

Unit Exams (60%): There will be 4 unit exams this semester. Exact exam dates will be announced in class. I must be notified ***prior to an exam*** if you are going to be absent, and we can discuss a time to take the exam. If I am not notified before the exam, I will not give a make-up exam.

Final Exam (20%): There will be a comprehensive exam during finals week.

GRADING: If you have questions about your grade at any time, I will be happy to discuss it with you. The final letter grade for this course will be based on the following percentages:

100 – 90	A
89 – 80	B
79 – 70	C
69 – 60	D
59 – 0	F

ATTENDANCE/MAKE-UP: (In-class) I expect to see you in class every day for the entire class period. If there is some reason you cannot attend class, remember that when *you* are absent, *you* are responsible for the material that has been covered. The professor cannot recreate the classroom experience outside of class; you must attend regularly. Please do not ask the professor to replace office hours for private lectures; the classroom experience is *in* the classroom.

Policies and Procedures:

Academic Honor Code: Students at BSC are expected to be honorable in behavior and above reproach in pursuit of their academic achievements. Cheating, plagiarism, or collusion in class work, laboratory performance, shop work, or test taking is unacceptable and subject to disciplinary action. More information can be found at https://bismarckstate.edu/uploads/resources/356/studentacademichonorcode.pdf.

Accessibility: If you have a disability that may limit your ability to fully participate in this class, please contact the Student Accessibility Office (SAO) at 224-2575. Personnel from the SAO will work with you and your instructor to arrange for reasonable accommodations after you have completed the registration process and it has been determined that you qualify.

Camera/Video Recording: Photographic, audio, and video recording of this class and/or the instructor are prohibited unless specifically requested by a student and approved/authorized in writing by the instructor or the Student Accessibility Office.

Email: Please note that I will only correspond with students through their BSC email account. Student Email Policy states: "In an effort to protect student privacy and better ensure student authenticity, official email exchanged between registered students and BSC personnel requesting a response shall require the response be exchanged from the student's official email address (i.e., NDUS ID@bismarckstate.edu). This policy is for the protection of faculty, staff, and students." More information can be found at https://bismarckstate.edu/uploads/resources/1197/studentemailpolicy.pdf.

Military/Veteran Statement: If you are currently or have served in the military, please contact the Veterans Services Office at 224-2576 regarding services/benefits to which you may be entitled.

Drop/Withdrawal Deadlines: Term dates can be found on Campus Connection in the class details. Drop and withdraw dates for each term can be found at https://bismarckstate.edu/academics/records/calendarsdeadlines/.

Student Rights and Responsibilities: Student rights and responsibilities along with student policies can be found at https://issuu.com/bismarckstatecollege/docs/bsc_student_rights_and_responsibili?e=19734813/52188116.

Title IX: For more information on sexual misconduct/Title IX please go to the BSC home page (www.bismarckstate.edu), scroll to the bottom and click on Title IX.

Course Outline: The course is laid out by weeks. Pay close attention to due dates on Blackboard.

Week 1 Week 2 Week 3 Week 4	Exam 1
Week 5 Week 6 Week 7 Week 8	Exam 2
Week 9 Week 10 Week 11 Week 12	Exam 3
Week 13 Week 14 Week 15 Week 16	Exam 4

Tutors: Math tutors are available at the Sykes Student Success Center in the walkway between the Jack Science Center and Schafer Hall. Please take advantage of the free, drop-in services offered. There is also a link to the SmartThinking tutoring service (24/7 online tutoring) in the course shell.

Last Day to Drop: https://bismarckstate.edu/uploads/174/Spring2018DatesDeadlinesSchedule10217.pdf

Supplies: Graphing calculator

Guest Speaker Statement: Bismarck State College is committed to presenting timely, innovative educational opportunities for its students. As part of those efforts, BSC faculty may invite guest speakers to address the student members of this course. Under FERPA regulations, such guest speakers are considered volunteers who serve a legitimate educational interest to institutional services or functions. Guest speakers will be informed by the faculty member of their responsibilities under FERPA to ensure student privacy. For more information, please visit the Department of Education's FERPA Student Privacy webpage at https://studentprivacy.ed.gov/

Blackboard: As a supplement to the course, documents and materials used in class will be available on Blackboard. This is the site used to access eText, assignments and deadlines, discussions, video lectures. Course grades will be updated periodically on this site throughout the semester.

CLASS EXPECTATIONS: I have high educational expectations of my students and believe those expectations can be met. The following is at minimum what is expected of you during this semester.

1. Prerequisite content knowledge. To be a successful calculus student, I expect you to have knowledge of algebra, geometry, trigonometry, and elementary functions (including linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise-defined functions). You should be familiar with the properties and graphs of these functions. You should also understand the language of functions (including domain, range, zeros, intercepts, etc.) and know the exact values of trigonometric functions of common angles on the unit circle (e.g., $0, \frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}, \frac{\pi}{2}$, and their multiples) without referring to technology. If you are uncomfortable with any of the aspects just described, this may not be the course for you.

2. Respectfulness. I expect you to be respectful of those around you throughout this course. This includes (but is not limited to) your behavior, whether it be inappropriate actions during class or even simply being distracted by your cell phone.

3. Focus. I expect for the 50 minutes you are in this room, your focus is on math. The group-style learning activities are for your benefit: it is extremely important you work hard for the time you are here.

4. Responsibility. I expect you to be responsible for your own education. Part of being responsible includes (but again, is not limited to) regulating your learning behaviors—knowing how much time you need outside of class to master material, seeking help when subject matter is unclear, not waiting until the last minute to study or complete assignments, not giving up when problems take more than 10 minutes, etc. You will get out of this class what you put in to it!

5. Preparedness. I expect all assigned videos to be viewed prior to coming to class. If I assign problems that go along with the video, I expect them to be done prior to coming to class as well. I also expect the understanding check be completed prior to coming to class.