

## 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:** *Summer 2018*

**Course:** Math 165    Calculus I    MTWRF    8:30 – 9:50    NECE 319

**Credit Hours:** 4

**Instructor Contact Information:** Jeff Skibicki, Associate Professor of Mathematics  
*Office:* NECE 311 B                      *Phone:* 224-5543  
*Office Hours:*    MTWRF 11:30 - 12:00  
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**Course Materials:**

**Textbook:** APEX Calculus(165 only) by Hartman    REQUIRED  
 Reading Guide by liams and Byron                      REQUIRED

**Course Description:** *Prerequisites:* Four years of high school math, Math 107, **OR** qualifying ACT score.  
 Review of analytic geometry, limits and continuity, derivatives of functions of one variable with applications, antidifferentiation and numerical integration, trigonometric, exponential, and logarithmic functions.

**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; Problem Solving
Communicate mathematics by explaining solutions both verbally and in written sentences and judging the reasonableness of said solutions		Quantitative Literacy; Critical Thinking
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>

**Unit Objectives:** Upon completion of the course the learner will be able to:

1. Understand the notion of limits and their applications.
2. Understand the notion of continuity.
3. Work with functions, their derivatives, and their applications.
4. Work with the Mean Value Theorem and its applications.
5. Work with definite integrals and their applications.
6. Demonstrate an understanding of how to solve problems using the Fundamental Theorem of Calculus.

**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.

<b>Assessment Methods:</b> 4 Exams	100 Points Each
8 Quizzes( <i>drop lowest</i> )	70 Points
5 Reading Guide assignments	50 Points
Final Exam( <i>comprehensive</i> )	<u>200 Points</u>
	720 Total Points

**Grading:** Letter grades will be determined by dividing total points earned on exams, quizzes and Reading Guide assignments by 720 total possible points.

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

**Attendance/Makeup:** Is ***strongly recommended***. You will be responsible for ***all*** material covered during lectures and any announcements or schedule changes made in class.

Points will **not** be awarded for attendance. Your attendance is **EXPECTED**.

Makeup quizzes and makeup exams will be given for ***extenuating circumstances only***. You **must** contact me **beforehand** to make arrangements.

## **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.

**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](mailto: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 224-2575 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 Policy Handbook:** Student rights and responsibilities are documented including the student conduct policy, student academic honor code, etc. can be found at <https://bismarckstate.edu/students/resources/handbook/>.

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

- Course Outline:**
- Chapter 1: To learn the essentials of functions and limits in preparation for defining the derivative.
- Chapter 2: To define differentiation and be able to explain the meaning of a derivative both from a geometric and algebraic standpoint.
- Chapter 3: To identify intervals of increasing and decreasing behavior of functions, intervals of concavity, to locate absolute and relative extrema using the First and Second Derivative Tests, other applications of the derivative.
- Chapter 4: To examine various applications of the derivative, including related rates, applied maximum and minimum problems, and differentials
- Chapter 5: To learn the basic concept of integration and study how differentiation and integration are related.
- Chapter 7: To study the derivatives of inverse functions(7.2) and L'Hopital's Rule(7.5)

- Additional Information:**
1. Cell phone usage and/or texting of any kind is **not** allowed in the classroom. Cell phones and other electronic devices (does not apply to calculators) must be **turned off and put away** prior to entering the classroom.
  2. Tutoring will be available at no charge to BSC students in the Sykes Student Success Center. As soon as a schedule of tutoring hours becomes available, it will be announced in class.
  3. A TI-83/84 Plus graphics calculator is **recommended** for this course. We may also make use of a computer algebra system.
  4. Final Exam Date and Time: Friday, July 27, 2018
  5. There will be no opportunity for extra credit in this class.
  6. No in class collaboration or "group work" will be allowed during quizzes, exams, or the Final Exam.

***"Learning is not a spectator sport. The responsibility to learn is yours and yours alone. For learning to take place in any course, you must take an active role in the process."***

**\*The instructor reserves the right to make changes/corrections to this syllabus for the duration of the semester.**