MATH1100 Calculus I, 3 credits
Boston College Summer Session 2019
Summer 1, May 15 – June 21, 2019
Mondays and Wednesdays: 9:00 am- 12:15 pm

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Office Hours: M, W 1-2 pm

Boston College Mission Statement
Strengthened by more than a century and a half of dedication to academic excellence, Boston College commits itself to the highest standards of teaching and research in undergraduate, graduate and professional programs and to the pursuit of a just society through its own accomplishments, the work of its faculty and staff, and the achievements of its graduates. It seeks both to advance its place among the nation’s finest universities and to bring to the company of its distinguished peers and to contemporary society the richness of the Catholic intellectual ideal of a mutually illuminating relationship between religious faith and free intellectual inquiry.

Boston College draws inspiration for its academic societal mission from its distinctive religious tradition. As a Catholic and Jesuit university, it is rooted in a world view that encounters God in all creation and through all human activity, especially in the search for truth in every discipline, in the desire to learn, and in the call to live justly together. In this spirit, the University regards the contribution of different religious traditions and value systems as essential to the fullness of its intellectual life and to the continuous development of its distinctive intellectual heritage.

Course Description: MATH 1100 is not open to students who have completed a calculus course at the college level (does not include AP Calculus). Students contemplating majors in Chemistry, Computer Science/B.S., Geology/Geophysics, Mathematics, or Physics should enroll in MATH 1102 Calculus I for Math and Science Majors, rather than MATH 1100. MATH 1100 is a first course in the calculus of one variable intended for biology, computer science, economics, management, and premedical students. It is open to others who are qualified and desire a more rigorous mathematics course at the core level. Topics include a brief review of polynomials, trigonometric, exponential, and logarithmic functions, followed by discussion of limits, derivatives, and applications of differential calculus to real-world problem areas. Time permitting, an introduction to integration concludes the course.

Calculators are not allowed on quizzes and exams. You are not required to have a calculator for this course, however some homework problems require the use of a calculator or computer to assist with arithmetic. I recommend wolframalpha.com and desmos.com.

Textbooks & Readings (Recommended): Khan Academy is an excellent place to find supplemental lessons and practice problems

- Algebra [https://www.khanacademy.org/math/algebra](https://www.khanacademy.org/math/algebra)
- Trigonometry [https://www.khanacademy.org/math/trigonometry](https://www.khanacademy.org/math/trigonometry)

Canvas

Canvas is the Learning Management System (LMS) at Boston College, designed to help faculty and students share ideas, collaborate on assignments, discuss course readings and materials, submit assignments, and much more - all online. As a Boston College student, you should familiarize yourself with this important tool. For more information and training resources for using Canvas, click here.

Course Objectives

1. Students will gain factual knowledge of the main ideas and methods of single-variable differential calculus.
2. Students will learn to apply course material to improve problem solving skills and decision-making capabilities.
3. Students will demonstrate an appreciation of calculus applied across cultural settings and will learn the impact of culture, gender, and age in calculus as demonstrated by response to examples used in class.
4. Students will demonstrate ethical appreciation of the importance of academic integrity pertaining to mastery of calculus as demonstrated by completing their work independently.

Grading

Attendance, taken as a ratio of classes attended to total classes, less any excused absences (with documentation), will account for another 5% of the total grade. Homework via WebAssign will be due following each class and will account for 15% of the total grade. There will be five short quizzes (lowest two dropped), a midterm exam, and a comprehensive final, weighted as follows: quizzes 10%, midterm 30%, final 40%. Tentative dates are: Midterm: Wednesday, June 5, Final: Wednesday, June 19.

If you are ever suddenly too unwell to take an exam, email your instructor at ellen.goldstein@bc.edu immediately. Once you begin an exam, you may not be excused except in cases of sudden illness. Your score will be recorded if you sat the exam, even if you feel that you did not perform to the best of your abilities.

The undergraduate grading system for Summer Session is as follows:

A (4.00), A- (3.67)
B+ (3.33), B (3.00), B- (2.67)
C+ (2.33), C (2.00), C- (1.67)
D+ (1.33), D (1.00), D- (.67)
F (.00)
All students can access final grades through Agora after the grading deadline each semester. Transcripts are available through the Office of Student Services.

**Deadlines and Late Work**
When an occasion occurs that prevents a student from attending class, it is the student’s obligation to inform the instructor of the conflict before the class meets. Makeup quizzes are not offered under any circumstances as the lowest two quiz scores are dropped. Makeup midterm or final exams require documentation of illness or events outside of a student’s control that prevent the student from attending class on the day of the exam. Students may request extensions to all online assignments for reduced points.

**Course Assignments**
Students are expected to spend about 6-8 hours a week reading for the class and completing the assignments. The assignments and reading assignments will be given in class and on the course website on Canvas. Please note that some weeks will require more time and some weeks less time but the average is approximately 6-8 hours per week over the semester.

**Tentative schedule for the session:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
<th>Due Date</th>
<th>Exams</th>
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</thead>
<tbody>
<tr>
<td>W. May 15</td>
<td>Functions (polynomial, rational, algebraic, trigonometric, exponential, logarithmic), compositions, translations, and inverses</td>
<td>1.1-1.5</td>
<td>W. May 22</td>
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<tr>
<td>M. May 20</td>
<td>BC Commencement – No class meeting</td>
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<tr>
<td>W. May 22</td>
<td>Limits (finite and infinite), Continuity, Intermediate Value Theorem</td>
<td>2.2, 2.3, 2.5, 2.6</td>
<td>W. May 29</td>
<td>Quiz 1</td>
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<tr>
<td>M. May 27</td>
<td>Memorial Day – No class meeting</td>
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<tr>
<td>W. May 29</td>
<td>Tangent lines and velocity, definition of derivative, derivatives of polynomials and exponential functions</td>
<td>2.1, 2.7, 2.8, 3.1</td>
<td>M. June 03</td>
<td>Quiz 2</td>
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<tr>
<td>M. June 03</td>
<td>Derivatives of trigonometric functions, product, quotient and chain rules</td>
<td>3.2, 3.3, 3.4</td>
<td>W. June 05</td>
<td>Quiz 3</td>
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<tr>
<td>W. June 05</td>
<td>Review and Midterm Exam</td>
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<td>Midterm</td>
<td></td>
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<tr>
<td>M. June 10</td>
<td>Implicit differentiation, derivatives of logarithms, related rates</td>
<td>3.5, 3.6, 3.9</td>
<td>W. June 12</td>
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<td>W. June 12</td>
<td>The Shape of a Graph, l'Hopital's Rule, Curve Sketching</td>
<td>4.1, 4.3, 4.4, 4.5</td>
<td>M. June 17</td>
<td>Quiz 4</td>
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<tr>
<td>M. June 17</td>
<td>Maximum and minimum values, Extreme Value Theorem, Optimization</td>
<td>4.1, 4.7</td>
<td>W. June 19</td>
<td>Quiz 5</td>
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<tr>
<td>W. June 19</td>
<td>Review and Final Exam</td>
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<td>Final</td>
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**Written Work**
Summer Session students are expected to prepare professional, polished written work. Written materials must be typed and submitted in the format required by your instructor. Strive for a thorough yet concise style. Cite literature appropriately, using APA, MLA or CLA style per your instructor’s requirements. Develop your thoughts
fully, clearly, logically and specifically. Proofread all materials to ensure the use of proper grammar, punctuation and spelling. For writing support, please contact the Connors Family Learning Center.

**Attendance**

Attending class is an important component of learning. Students are expected to attend all class sessions. When circumstances prevent a student from attending class, the student is responsible for contacting the instructor before the class meets. Students who miss class are still expected to complete all assignments and meet all deadlines. Many instructors grade for participation; if you miss class, you cannot make up participation points associated with that class. Makeup work may be assigned at the discretion of the instructor. If circumstances necessitate excessive absence from class, the student should consider withdrawing from the class. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate's notes.

Consistent with BC’s commitment to creating a learning environment that is respectful of persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to observe their religious holidays without jeopardizing their academic status. Students are responsible for reviewing course syllabi as soon as possible, and for communicating with the instructor promptly regarding any possible conflicts with observed religious holidays. Students are responsible for completing all class requirements for days missed due to conflicts with religious holidays.

**Accommodation and Accessibility**

Boston College is committed to providing accommodations to students, faculty, staff and visitors with disabilities. Specific documentation from the appropriate office is required for students seeking accommodation in Summer Session courses. Advanced notice and formal registration with the appropriate office is required to facilitate this process. There are two separate offices at BC that coordinate services for students with disabilities:

- The Connors Family Learning Center (CFLC) coordinates services for students with LD and ADHD.
- The Disabilities Services Office (DSO) coordinates services for all other disabilities.

Find out more about BC’s commitment to accessibility at [www.bc.edu/sites/accessibility](http://www.bc.edu/sites/accessibility).

**Scholarship and Academic Integrity**

Students in Summer Session courses must produce original work and cite references appropriately. Failure to cite references is plagiarism. Academic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on exams or assignments, or submitting the same material or substantially similar material to meet the requirements of more than one course without seeking permission of all instructors concerned. Scholastic misconduct may also involve, but is not necessarily limited to, acts that violate the rights of other students, such as depriving another student of course materials or interfering with another student’s work. Please see the Boston College policy on academic integrity for more information.