

# MATH 019 A – FUNDAMENTALS OF CALCULUS I

Fall 2019

|                    |  |                      |                     |
|--------------------|--|----------------------|---------------------|
| <b>Instructor:</b> | Tyson Pond                                       | <b>Time:</b>         | TR 8:30 – 9:45am    |
| <b>Email:</b>      | <a href="mailto:tpond@uvm.edu">tpond@uvm.edu</a> | <b>Place:</b>        | Lafayette Hall L102 |
| <b>Office:</b>     | Innovation Hall E324                             | <b>Office Hours:</b> | TBD                 |

**Math Help Sessions:** Free help sessions for MATH 001-023 are held weekly Monday through Thursday from 5–7pm in Perkins 200. I will be there Monday 5–6pm.

**Objectives:** Fundamentals of Calculus I is the first course in a two-course calculus sequence geared toward students majoring in business, life sciences, and social sciences. The focus of this course is on developing an understanding of differential calculus and exploring its real-world applications. An introduction to integral calculus will also be treated toward the end of the semester.

**Prerequisites:** Knowledge of high-school algebra and trigonometry is assumed.

**Textbook:** *Calculus for Business, Economics, Life Sciences and Social Sciences* by Barnett et al. (14th Edition)

## Technology:

- We will be using Pearson’s on-line “MyLab Math” platform which comes packaged with the textbook. Here you will find homework assignments, practice exercises, and an electronic version of the text. The Course ID for MyLab Math is **pond66316**.
- I will also use BlackBoard to post updates (i.e. extra office hours), useful study resources, and grades on assessments. Unless you have changed your notification settings, you should receive these updates through your UVM email too, but please check BlackBoard frequently.
- A scientific calculator is highly recommended for homework and assessments.

## Grading:

- 15% Homework – There will be numerous (approximately one per week) on-line homework assignments to be completed on the MyLab Math platform. You are free to use your notes and textbook for these assignments. The assignments are not timed and you will be given several attempts to solve each problem. Your two lowest homework grades will be dropped.
- 25% Quizzes – There will be an in-class quiz every Thursday (except for exam weeks). Make-up quizzes will not be offered (exceptional cases are UVM sanctioned events and religious holidays). Your two lowest quiz grades will be dropped to account for unavoidable absences.
- 40% Midterm Exams – There will be two midterm exams, each worth 20% of your grade. Both midterms are closed notebook. Make-up midterms may be arranged if I am notified well in advance. Midterms are not “designed” to be cumulative, but this class tends to build on the key concepts of earlier sections so you will be responsible for knowing those concepts.
- 20% Final Exam – There will be a cumulative final exam on Tuesday, December 10 at 7:30am in Lafayette L102. The final exam is closed notebook.

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Grades will be assigned according to the following letter grade conversion chart. I will determine the rounding of borderline grades based on class participation and attendance.

|    |        |   |       |    |       |
|----|--------|---|-------|----|-------|
| A+ | 97-100 | A | 93-96 | A- | 90-92 |
| B+ | 87-89  | B | 83-86 | B- | 80-82 |
| C+ | 77-79  | C | 73-76 | C- | 70-72 |
| D+ | 67-69  | D | 63-66 | D- | 60-62 |
| F  | < 60   |   |       |    |       |

### Important Dates:

**Add/Drop Deadline** ..... **September 9**  
**Midterm #1** ..... **October 3**  
**Last Day to Withdraw** ..... **October 28**  
**Midterm #2** ..... **November 7**  
**Final Exam** ..... **December 10**

I reserve the right to move midterm exams to later dates. Any changes will be announced in class and via email.

**Classroom Expectations:** Students are expected to act in accordance to the rules outlined in the schools Classroom Code of Conduct. A copy can be found on-line. In addition to these rules, students shall respect the thoughts and ideas of both the instructor and the other students present in the class. The instructor shall also adhere to these same rules. Also, please turn off all cell-phones and any other noise making technology during the class.

**Academic Integrity:** Students are expected to understand and comply with the UVM Code of Academic Integrity. Violations of this policy will be taken seriously and will be met with appropriate consequences.

**Accommodations:** Students with disabilities or special needs should contact the instructor and provide appropriate documentation within the first two weeks of the semester so that accommodations can be made.

**Religious Holidays:** UVM students have the right to practice their religion. Students should submit in writing, within the first two weeks of class, their documented religious holiday schedule for the semester. Students who miss work because of religious holidays are allowed to make up this work.

### Tentative Schedule of Topics:

- Chapter 2: Limits, continuity, the derivative, rules of differentiation, differentials
- Chapter 3: Compound interest and exponential functions, more rules of differentiation, implicit differentiation and related rates
- Chapter 4: First and second derivative test, curve-sketching, L'Hopital's rule, optimization
- Chapter 5: Indefinite and definite integrals, rules of integration, The Fundamental Theorem of Calculus, introduction to differential equations