

**SYLLABUS MATH 1850:BBB**  
**Spring 2022**  
**The University of Iowa**  
**The College of Liberal Arts and Sciences**  
**Department of Mathematics**

This course has a lecture (meets 3 times/week) and a discussion (meets 2 times/week). You have registered in only one of the following Discussions: 0B11 or 0B12.

| Calculus I             | Lecture 1850:BBB   | Discussion 0B11  | Discussion 0B12  |
|------------------------|--|--|--|
| Instructor             | Dr. Zahra Aminzare   | Bryanna Petentler  | Elise Askelsen   |
| Email                  | <a href="mailto:zahra-aminzare@iowa.edu">zahra-aminzare@iowa.edu</a> | <a href="mailto:bryanna-petentler@uiowa.edu">bryanna-petentler@uiowa.edu</a> | <a href="mailto:elise-askelsen@uiowa.edu">elise-askelsen@uiowa.edu</a> |
| Time & Location        | 1:30P - 2:20 P MWF<br>427 EPB  | 8:30A - 9:20A TTh<br>113 MLH   | 11:00A - 11:50A TTh<br>205 MLH   |
| In-person Office Hours | B1H MacLean Hall<br>2:30-4:00 Wed                                    | B20J MacLean Hall<br>10am-11am Tues, Wed                                     | 261 McBride Hall<br>12:30-1:30 Tues, Wed                               |
| Virtual Office Hours   | Zoom ID: 992 6340 2848<br>10:30-12:00 Fri<br>(or by appointment)     | Zoom ID: 708 459 7621<br>By appointment                                      | None   |
| MathLab Hours          | None   | TBA  | TBA  |

**DEO Contact Information:** Prof. Weimin Han, 14 MLH, 319-335-0714, [weimin-han@uiowa.edu](mailto:weimin-han@uiowa.edu)

**Textbook:** Single Variable Calculus, Early Transcendentals by J Stewart, 8th edition (Chapters 1–6 except section 4.6)

What is ICON Direct? Please read <https://teach.uiowa.edu/icon-direct>

How to opt out of ICON Direct? Please see <https://teach.uiowa.edu/icon-direct/opt-out>

| TESTS       | Quiz 1             | Midterm 1                  | Quiz 2             | Quiz 3             | Midterm 2                     | Quiz 4             | Final                        |
|-------------|--------------------|----------------------------|--------------------|--------------------|-------------------------------|--------------------|------------------------------|
| Date & Time | 02/03/22<br>20 min | 02/25/22 Fri<br>6:30P-8:3P | 03/10/22<br>20 min | 03/31/22<br>20 min | 04/08/22<br>6:30P-8:30P       | 04/21/22<br>20 min | TBD                          |
| Location    | Discussion         | W128 CB                    | Discussion         | Discussion         | W128 CB                       | Discussion         | TBD                          |
| Materials   | Chapter 1          | Chapters 1&2               | Sections 3.1-3.6   | Sections 3.7-3.11  | Focus on Chapters 3 & 4.1-4.2 | Sections 4.3-5.2   | Comprehensive (Chapters 1-6) |
| Grade       | 7%                 | 20%                        | 7%                 | 7%                 | 20%                           | 7%                 | 30%                          |
| Grader      | Petentler          | Aminzare                   | Askelsen           | Petentler          | Aminzare                      | Askelsen           | Aminzare                     |

### Homework (10%)

**13** HW will be assigned throughout the semester.

Assignments will be posted on **ICON** every **Monday**.

You will have ~9 days to complete each assignment. Please hand in your HW to your TA on **Tuesday in the beginning of Discussion**.

No late HW will be accepted; however, the 3 lowest HW grades will be dropped. Please do not hesitate to email me if you have a medical problem, a family emergency, or other severe circumstances.

Each HW contains two parts. Part one is from the book and will only be assessed for completeness. Part two will be graded for accuracy and quality of exposition, and some feedback will be provided.

All the tests will be similar to HW questions, especially to Part 2.

### Quiz (21%)

**4** quizzes will be given in the **Discussion** sessions.

The lowest quiz grade will be dropped.

A key solution will be posted after each quiz (ideally by the day after the quiz; however, if a student needs to make up due to an excused absence, the solution will be posted later.)

Graded quizzes will be returned after at most one week.

### Midterms (40%)

**2 evening** midterms will be given.

If you have any time conflicts with the midterms, please let me know as soon as possible (by Feb 6th).

I will post a practice exam two weeks before each midterm.

To ensure that you have enough time to work on the practice exams, I will post a solution key for each practice exam only one day before each exam.

### Final (30%)

The final exam is comprehensive with an emphasis on Chapters 1-5.

Since there will be no time to hand in HW for chapter 6, there will not be many questions from chapter 6 (maybe 1 or 2 questions).

I will post a practice exam two weeks before the final.

I will solve the practice exam during the last class and post the solutions afterwards.

Please do not plan your end of the semester travel plans until the final exam schedule is made public.

It is your responsibility to know the date, time, and place of the final exam.

### Grading \*\*The sum is 101%\*\*

This course uses the plus/minus grading system. I will curve this class using the following table

| A+       | A       | A-      | B+      | B       | B-      | C+, C, C- | D & F      |
|----------|---------|---------|---------|---------|---------|-----------|------------|
| 101 - 99 | 91 - 98 | 86 - 90 | 81 - 86 | 71 - 80 | 66 - 70 | 51 - 65   | 50 or less |

which is laxer than the one suggested by the college:

<https://clas.uiowa.edu/faculty/grades-undergraduate-policies-and-guidelines>

|    |   |    |    |   |    |    |   |    |    |   |    |   |
|----|---|----|----|---|----|----|---|----|----|---|----|---|
| A+ | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |
|----|---|----|----|---|----|----|---|----|----|---|----|---|

|             |            |            |            |            |            |            |            |            |            |            |            |               |
|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|
| 101 -<br>99 | 98 -<br>93 | 92 -<br>90 | 89 -<br>87 | 86 -<br>83 | 82 -<br>80 | 79 -<br>77 | 76 -<br>73 | 72 -<br>70 | 69 -<br>67 | 66 -<br>63 | 62 -<br>60 | 59 or<br>less |
|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|

**Course Policies.** Students are expected to attend all lectures, do the homework, take the quizzes and exams. Students are responsible for everything covered in the lectures, textbook and the prerequisites. Important announcements about changes (if necessary) to the syllabus, homework, exams, etc. will be done in the lectures or they will be e-mailed to your UI e-mail address. University regulations require that students be allowed to make up examinations which have been missed due to illness or other unavoidable circumstances. Students with mandatory religious obligations or UI authorized activities must discuss their absences with me as soon as possible. Religious obligations must be communicated within the first three weeks of classes.

**Prerequisites.** (MATH:1010 with a minimum grade of C- and MATH:1380 with a minimum grade of C-) or MATH:1460 with a minimum grade of C- or ALEKS score of 75 or higher or MPT Level 3 score of 9 or higher or (ALEKS score of 55 or higher and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-)

**Synopsis.** Math 1850 focuses on fundamental concepts and methods of single variable Calculus. Topics include theory of functions and graphs, limits and continuity, differentiation and integration of algebraic, trigonometric, inverse trig, logarithmic, and exponential functions. It includes applications of differentiation, such as graphing functions, max-min problems, tangent line approximation, and implicit differentiation. We will also discuss the Mean Value Theorem, antiderivatives, definite and indefinite integrals. The course culminates with topics on applications of integration.

**Schedule.** We will have 44 lectures during Spring 2022 and we need to cover 42 sections of the book (Chapters 1-6, except section 4.6). We will cover approximately one section per session. Note that some of the sections are easier and can be covered in less than one session and some of them need more time to be delivered adequately. So, the following table is only a tentative schedule.

## A Tentative Schedule

| Week   | Section                                 |
|--|---|
| 01) Jan 19, 21   | Overview, 1.1, 1.2                      |
| 02) Jan 24, 26, 28                                       | 1.3, 1.4, 1.5                           |
| 03) Jan 31, Feb 2, 4<br>(Quiz 1: Feb 3, in Discussion)   | 2.1, 2.2, 2.3                           |
| 04) Feb 7, 9, 11   | 2.4, 2.5, 2.6                           |
| 05) Feb 14, 16, 18                                       | 2.7, 2.8, 3.1                           |
| 06) Feb 21, 23, <b>25</b><br>(Mid 1: Feb 25, evening)    | 3.2, 3.3, 3.4                           |
| 07) Feb 28, Mar 2, 4                                     | 3.5, 3.6, 3.7                           |
| 08) Mar 7, 9, 11<br>(Quiz 2: Mar 10, in Discussion)      | 3.8, 3.9, 3.10                          |
| <b>Happy</b>   | <b>Spring!</b>                          |
| 09) Mar 21, 23, 25                                       | 3.11, <u>catch up (if needed)</u> , 4.1 |
| 10) Mar 28, 30, Apr 1<br>(Quiz 3: Mar 31, in Discussion) | 4.2, 4.3, 4.4                           |
| 11) Apr 4, 6, <b>8</b><br>(Mid 2: Apr 8, evening)        | 4.5, <del>4.6</del> 4.7, 4.8            |
| 12) Apr 11, 13, 15                                       | 4.9, 5.1, 5.2                           |
| 13) Apr 18, 20, 22<br>(Quiz 4: Apr 21, in Discussion)    | 5.3, 5.4, 5.5                           |
| 14) Apr 25, 27, 29                                       | 6.1, 6.2, 6.3                           |
| 15) May 2, 4, 6  | 6.4, 6.5, <u>review</u>                 |
| <b>Final</b>   | <b>Exam</b>                             |