



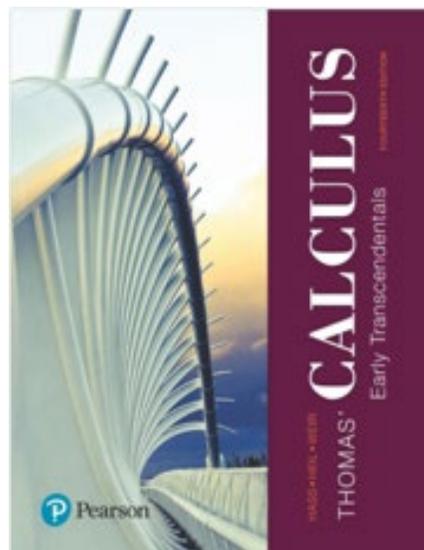
## Textbook:

Thomas' Calculus (14th edition)

Hass, Heil, Weir

Early Transcendentals

ISBN 978-0-13-443902-0



The WPI bookstore has this book available in hard cover, loose-leaf, or an electronic version. Any of these will work for our class. If you get an electronic version, you may need a Course ID to activate your text – please use “calculus36478” for this purpose (or contact Prof. Abraham if that doesn’t seem to be working).

We will **NOT** be using MyMathLab in B-term 2002 for MA 1022; this is an add-on to the textbook – it has some useful tutorial and review material, so feel free to buy it if you like, but it won’t be required for the course.

You do not need to bring your textbook with you to class.

## MA 1022 B-2020

|   |            |
|---|------------|
| <b><u>Grading:</u></b> Textbook homework (due every Monday) | 15%        |
| WeBWorK homework (due every Wednesday)                      | 15%        |
| Test 1: Friday, November 6, 5:00 pm                         | 20%        |
| Test 2: Monday, November 23, 5:00 pm                        | 20%        |
| Final Exam: Thursday, December 10, 5:00 pm                  | 30%        |
| Total   | <hr/> 100% |

Grades will be assigned as either A, B, C, I, or NR

- An average of 90% will ensure an A for the course.
- An average of 80% will ensure a B for the course.
- An average of 70% will ensure a C for the course.

There will be no “extra credit” assignments; grades will be based solely on the items noted above.

Students who do not pass the Basic Skills component of the Final Exam but would otherwise have passed the class will have their grade recorded as “I” for “incomplete”, and will be given an opportunity for a retake of the Basic Skills test later.

# MA 1022 B-2020

## **Exams & Final**

There will be two Midterm exams and a Final exam in this class, constituting 70% of your course grade. Each Midterm will count as 20% of your course grade, and the Final will count as 30%.

The first Midterm will be on Friday, November 6, at 5:00 pm via Zoom.

The second Midterm will be on Monday, November 23, at 5:00 pm via Zoom.

The Final Exam will be on Thursday, December 10, at 5:00 pm via Zoom.

Students with an Accommodation Letter can, if they wish, take their tests in the Exam Proctoring Center (EPC). It is your responsibility to schedule your test on the same day as the exam will be given to the class (the dates above), and since the EPC can fill up (particularly close to the end of the term), be sure to arrange that early. If you wish to take the exam via Zoom, we will have a breakout room for you so you will receive any extended time you are entitled to.

All three tests are closed-book, no notes, no calculators. Midterm exams will be 90 minutes in length; the final will be 120 minutes.

The Final Exam will include a Basic Skills component – seven questions worth 5 points apiece, with no partial credit (each question is 0 or 5; the slightest error will cause it to be a 0). In order to pass the class, you must score 25 out of 35 or better on the Basic Skills component of the Final (and to turn this around a bit: To pass the class, you must achieve the other requirements of the course – just passing the Basic Skills test does not guarantee you will pass the class).

**Important note:** For students taking their exams via Zoom, we require that you upload your exam to Canvas (in a single PDF), and verify its contents, **before** you exit the Zoom room. Students who leave the Zoom room before uploading their exam will have their exam scores marked as zero.

## MA 1022 B-2020

### Textbook Homework:

In order to encourage students to keep up with the course and to prepare for the tests, a significant number of problems from the text will be assigned each week. These will be graded for credit, and will constitute 15% of your grade.

Textbook homework is due every Monday beginning October 26, at midnight. There will be no homework due on the Monday after Thanksgiving break, November 30.

Your work should be neat and complete – and you will need to scan it to a PDF and upload it to Canvas by the due date/time. **Late work will be accepted, but marked down by 50%.** No homework will be accepted after December 10.

Textbook homework grading will be based on 100 points, as follows:

- 50 points for completeness (are all of the problems done, with a reasonable amount of work shown?)
- 40 points (10 points each for four problems which will be graded in detail for accuracy, completeness, and clarity). You will not be told which problems are to be graded each week.
- 10 points for neatness and organization. We want students to learn to present their work in an orderly way. We're not awarding points for good handwriting, but rather for how you organize your work – We would like your homework problems in order, clearly numbered, final answers circled or otherwise indicated, not scrunched down to fit into a tiny space, and so on.

### WeBWorK:

WeBWorK (WW) is an online homework site, which must be accessed via Canvas.

You will have a WW assignment each week, and it will be due on Wednesday night at midnight, beginning on October 28.

There is no “submission” for WW; as you solve problems on the WW site, that is automatically captured. You have unlimited attempts on each WW question, and you will be able to see if you have the right answer or not.

**Note:** The “email instructor” button at the bottom of each question is the preferred way for you to ask questions about WW.

**Late WW will not be accepted.**

WW grades are moved to Canvas manually, so there will be some delay between completing assignments and actually seeing your grade on Canvas.

## MA 1022 B-2020

### Course Objective:

Learn the fundamental principles of Integral Calculus (see list of topics, below)

### Material to be covered:

The course content is prescribed by the Department of Mathematical Sciences.

See: <http://www.math.wpi.edu/instruction.html>

1. Antiderivatives (4.8)
2. The definite integral (5.1-5.3)
3. Fundamental theorem of calculus, substitution for indefinite integrals (5.4, 5.5)
4. Areas of plane regions, substitution in definite integrals (5.6)
5. Volumes (including the "washer method") (6.1)
6. Arc length, surfaces of revolution (6.3 and 6.4)
7. Moments and centers of mass (6.6)
8. The natural logarithm as an integral (7.1)
9. Exponential growth and decay (7.2)
10. Basic techniques of integration: substitution, integration by parts, trigonometric integrals (8.1-8.3)
11. Additional techniques of integration: partial fractions (8.5)
12. Numerical integration (8.7)

Other topic areas may be added to the above list.