

**Information for Online Homework Math10550 Fall 2023** (hyperlinks are in blue)

Homework will be assigned and collected electronically through Webassign.

- To enroll in your course, choose the correct class key from the list below and follow the instructions on the following link;

<https://startstrong.cengage.com/webassign-not-integrated-ia-yes/>.

Please use your name as listed in your class and your Notre Dame e-mail for registration. You can check the name of your instructor and your section number in Canvas or on our website.

| Instructor         | Section Number | Class Key    |
|--------------------|----------------|--------------|
| Han Lu             | 01             | nd 2729 8660 |
| Yufei Zhang        | 02             | nd 3093 7700 |
| Connor Malin       | 03             | nd 9576 7269 |
| Eric Riedl         | 04             | nd 5138 2860 |
| Phillip Marmarino  | 05             | nd 5436 2037 |
| Kathryn Mulholland | 06             | nd 9977 3745 |
| Lorenzo Riva       | 07             | nd 9859 6728 |
| Annette Pilkington | 08             | nd 7970 1859 |

If you switch sections at some point in the future, take a screen shot of your homework scores to date before you switch, then send an e-mail to Pilkington.4@nd.edu with the screenshot, details of the section you are switching from, and the one you are switching to.

You have about 10 days after Aug. 22 to purchase an access code and enter it in the system before it terminates your access(see below).

Your tutors will walk you through the process in the first tutorial, **If you need further help** for technical problems regarding online homework, please attend the Cengage Office hours listed on our help page on our website.

**Purchasing Book/Homework Access** For this class, I ask that you purchase the **Cengage Unlimited \$124.99** (4 month option) option. This option will allow access to online homework and e-book for all three semesters (Calc 1-3). It will also allow access a precalculus book for review and all cengage materials for this semester. If you are purchasing Cengage Unlimited for another class, you do not need to purchase it for this class. For more details click on this link: <https://www.webassign.com/instructors/purchasing/cengage-unlimited/>. Be sure to read the [Book/Access Code Information](#) on our website before purchasing a book or access code.

**Getting Started** Your course home page may not become visible until after midnight on your day of purchase. To expedite visibility, you should clear the cache of your browser. When you are able to view your Home Page, which will give you a list of Current assignments, in particular, you can start work on your homework. Instructions on getting started are given on the Cengage website under the link <https://help.cengage.com/student/webassign/index.html>.

Your Home Page also offers a link to the e-book with various media files attached.

**Homework Policy:** The homework for each class is available at 2am on the day of the class prior to the one in which the relevant material is scheduled to be covered. **It is due at the end of the next class day (in fact 2a.m. the following morning)**. A complete list of due dates is attached.

Late Homework will not be accepted. In the case of extenuating circumstances, you should consult your instructor. A prearranged trip off campus, for any event will not be considered as extenuating circumstances. Your Homework will count for 50 points out of a total of 600 points for the course, approximately 8.3% of your final grade.

**Extras:** In addition to homework assignments, there are two assignments which are not for credit (see the attached homework schedule).

- The “Entering math answers in WebAssign” assignment should be completed by all students who have not used WebAssign before.
- “Practice Exam 1” will appear in webassign before exam 1. The other practice exams have not yet been added to the system.

Your assignments classified as **Homework** are labelled by section number and topic. These homeworks will be used to calculate your final grades and will contribute to your scores in the gradebook. At the end of the semester, the lowest three homework scores will be dropped.

**Homeworks may contain a few review questions from the relevant precalculus topics and some old exam questions.** To access the relevant section of the book for the precalculus questions, click on **read it**. Please review the solutions to the old exam questions after the due date and try to develop your skills in presenting your answer in writing using logical steps and reasoning. This is an important skill for problem solving and will be tested in the partial credit portion of your exams. It is important to develop this skill for future courses, research requiring problem solving and especially for writing up future research.

For each homework question part (except multiple choice), you are allowed 5 submissions for the answer. You can submit question parts individually. When you wish to make a submission, click **Submit Answers**. You do not need to complete your homework or a question in one sitting. You may click **Save Work** if you wish to return to your work later.

The first chart below shows the proper syntax for entering answers and the next chart shows the most common errors when entering answers. There is also a menu called “Calcpad” available when working on a problem which can be opened and used to help you enter your answers.

WebAssign Symbolic Formatting

This question requires that you enter your response in symbolic format.

To do this, type your answer into the answer box using standard calculator notation. You will be given credit for any formula that is evaluated to be equivalent to the answer formula.

For example,  $4x+12$  would be equivalent to  $(x+3)^4$ .

Use pi to represent the symbol  $\pi$ , 3.14 is a numerical approximation of the symbol  $\pi$  and these are not equivalent.

Do not worry about italics. For example, if a variable  $g$  is used in the question, just type  $g$ .

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| Available operators   | Example                  | Available operators   | Example         |
|---|--------------------------|---|-----------------|
| + for addition  | $x+1$                    | sin, cos, tan, sec, csc, cot, asin, acos, atan functions (angle x expressed in radians) | $\sin(2*x)$     |
| - for subtraction or the negative sign                        | $x-1$ , or $-x$          | sqrt() for square root of a number  | $\sqrt{x/5}$    |
| * for multiplication  | $4*x$                    | pi for 3.14159...   | $2*\pi*x$       |
| / for division  | $x/4$                    | e for scientific notation   | $1e3 = 1000$    |
| ** or ^ for exponential                                       | $x**3$ or $x^3$          | ln() for natural log  | $\ln(x)$        |
| () where necessary to group terms                             | $4/(x+1)$ , or $3*(x+1)$ | exp() for "e to the power of"   | $\exp(x) = e^x$ |
| abs() to take the absolute value of a variable or expression. | $\text{abs}(-5) = 5$     |   |                 |

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| Question Mode         | Problem                                      | Incorrect Notation     | Correct Notation   |
|-----------------------|--|------------------------|--------------------|
| Any                   | Incorrect grouping operator.                 | $4\{x+3\}$             | $4(x+3)$           |
| Any                   | Missing operand.                             | $50^*$                 | $50*3$             |
| Any                   | Too many consecutive operators.              | $x++++2$               | $x+2$              |
| Any                   | Unrecognized symbol.                         | $\$4.00$<br>$4\&6$     | $4.00$<br>$4+6$    |
| Numerical             | Misspelled unit.                             | $3456 \text{ met/sec}$ | $3456 \text{ m/s}$ |
| Numerical             | Response cannot contain variables.           | $2*x+3$                | $2*10+3$           |
| Numerical             | Response cannot use implicit multiplication. | $3(14)$                | $3*14$             |
| Symbolic or Algebraic | Comma in number.                             | $5,000$                | $5000$             |

**HELP** : The [MATH Help Room](#) is located in the basement of Hayes-Healy. The hours are listed on the help page (the above link). The help room is staffed by graduate tutors (including your tutors for the tutorials for 10550) and you can walk in and get help on homework, old exam questions or difficulties understanding the material at any of the times listed.

Help is also available in the form of **instructor office hours and from First Year of Studies**. More details on help available appear in the [Help Available](#) section on our website. Your instructor will also let you know their office hours as soon as they have sorted out their schedule.

Webassign offers technical support and tutoring facilities. For **technical support**, click on the students support button at the upper right hand corner of the Webassign home page.

For **homework help** the Enhanced Webassign system gives a number of help options with each question.

- **Read it** : Brings you to the relevant section of the book.(This will bring you to the relevant section of the precalculus book for review questions on precalculus).
- **Watch it** : Shows a video tutorial where someone works through a similar question.
- **Master it** : Helps you through a similar question in steps outlining the ideas involves in each step.
- **Chat about it** : Offers help through live online tutorials.

### Homework Schedule Math 10550 Fall 2023

Note all deadlines are at 2:00 A.M., meaning that homework due on thurs. at 2:00 a.m. is essentially due on wed. night with a two hour extension.

| Class Date    | Topic covered in class                                 | HW Appears   | HW Due                 |
|---------------|--|--------------|------------------------|
|               | Entering Math Answers in Webassign (not for credit)    | Tue. 08/22   | Thurs. 08/28 2:00 a.m. |
| 08/23 W       | 1.1-1.3. Review of Functions                           | Tue. 08/22   | Mon. 08/28 2:00 a.m.   |
| 08/25 F       | 1.4. Ave., Tangent and Velocity                        | Wed. 08/23   | Tue. 08/29 2:00 a.m.   |
| 08/28 Mon.    | 1.5. Limit of a Function                               | Fri. 08/25   | Thurs. 08/31 2:00 a.m. |
| 08/30 Wed.    | 1.6. Calculating limits using the limit laws           | Mon. 08/28   | Mon. 09/04 2:00 a.m.   |
| 09/01 Fri.    | 1.8. Continuity  | Wed. 08/30   | Tue. 09/05 2:00 a.m.   |
| 09/04 Mon.    | 2.1. Derivatives and rates of change                   | Fri. 09/01   | Thurs. 09/07 2:00 a.m. |
| 09/06 Wed.    | 2.2. The derivative as a function                      | Mon. 09/04   | Mon. 09/11 2:00 a.m.   |
| 09/08 Fri.    | 2.3. Differentiation formulas                          | Wed. 09/06   | Tue. 09/12 2:00 a.m.   |
| 09/11 Mon.    | 2.4. Derivatives of trigonometric functions            | Fri. 09/08   | Thurs. 09/14 2:00 a.m. |
| 09/13 Wed.    | 2.5. The Chain Rule                                    | Mon. 09/11   | Mon. 09/18 2:00 a.m.   |
|               | Prac. Ex 1(not for credit)                             | Thurs. 09/15 | Mon. 09/19 2:00 a.m.   |
| 09/15 Fri.    | 2.6. Implicit differentiation                          | Wed. 09/13   | Thurs. 09/21 2:00 a.m. |
| 09/18 Mon.    | Review for Exam 1                                      |              |                        |
| 09/20 Wed.    | Return of Exam 1                                       |              |                        |
| 09/22 Fri.    | 2.7. Rate of change in the natural and social sciences | Wed. 09/20   | Tue. 09/26 2:00 a.m.   |
| 09/25 Mon.    | 2.8. Related Rates                                     | Fri. 09/22   | Thurs. 09/28 2:00 a.m. |
| 09/27 Wed.    | 2.9. Linear approximation and differentials            | Mon. 09/25   | Mon. 10/02 2:00 a.m.   |
| 09/29 Fri.    | 3.1. Maximum and minimum values                        | Wed. 09/27   | Tue. 10/03 2:00 a.m.   |
| 10/02 Mon.    | 3.2. The Mean Value Theorem                            | Fri. 09/29   | Thurs. 10/05 2:00 a.m. |
| 10/04-06 W/F  | 3.3. How derivatives affect the shape of a graph       | Mon. 10/02   | Tue. 10/10 2:00 a.m.   |
| 10/09 Mon.    | 3.4. Limits at infinity; horizontal asymptotes         | Fri. 10/06   | Fri. 10/13 2:00 a.m.   |
| 10/11 Wed.    | Review for Exam 2                                      |              |                        |
| 10/13 Fri.    | Return of Exam 2                                       |              |                        |
|               | <b>Fall Break</b>                                      |              |                        |
| 10/23 Mon.    | 3.5. Summary of curve sketching                        | Fri. 10/13   | Thurs. 10/26 2:00 a.m. |
| 10/25 Wed.    | 3.7. Optimization problems                             | Mon. 10/23   | Mon. 10/30 2:00 a.m.   |
| 10/27 Fri.    | 3.8. Newton's Method                                   | Wed. 10/25   | Tue. 10/31 2:00 a.m.   |
| 10/30 Mon.    | 3.9. Antiderivatives                                   | Fri. 10/27   | Thurs. 11/02 2:00 a.m. |
| 11/01 Wed.    | 4.1. Areas and distances                               | Mon. 10/30   | Mon. 11/06 2:00 a.m.   |
| 11/03 Fri.    | 4.2. The definite integral                             | Wed. 11/01   | Tue. 11/07 2:00 a.m.   |
| 11/06 Mon.    | 4.3. The Fundamental Theorem of Calculus               | Fri. 11/03   | Thurs. 11/09 2:00 a.m. |
| 11/08 Wed.    | 4.4. Indefinite integrals and the Net Change Theorem   | Mon. 11/06   | Mon. 11/13 2:00 a.m.   |
| 11/10 Fri.    | 4.5. The Substitution Rule                             | Wed. 11/08   | Tue. 11/14 2:00 a.m.   |
| 11/13 Mon.    | 5.1. Area between curves                               | Fri. 11/10   | Fri. 11/17 2:00 a.m.   |
| 11/15 Wed.    | Review for Exam 3                                      |              |                        |
| 11/17 Fri.    | Return of Exam 3                                       |              |                        |
| 11/20 Mon.    | 5.2. Volumes   | Fri. 11/17   | Mon. 11/27 2:00 a.m.   |
| 11/22-24 W/F  | <b>Thanksgiving Break</b>                              |              |                        |
| 11/27 Mon.    | 5.3. Volumes by cylindrical shells                     | Fri. 11/24   | Thurs. 11/30 2:00 a.m. |
| 11/29 Wed.    | 5.4. Work  | Mon. 11/27   | Mon. 12/04 2:00 a.m.   |
| 12/01 Fri.    | 5.5. Average value of a function                       | Wed. 11/29   | Tue. 12/05 2:00 a.m.   |
| 12/09-11 M/W. | Review for Final                                       |              |                        |