

#source

1 | General Aftercare

- Assignments on Canvas (preferably a PDF)
- Collaborate as much as possible
 - Learn and share ideas together
 - Collaborate well together
- Nikhil TAing!! ;)
- ~30 mins of HW/class period. *time* the assignments and write it down on top.
- Tests are take home, duh (COVID NOISES!!), and are Assigned Wednesday, Due on Monday)

Expectations * A notebook should be maintained + some solved sample problems * Homework assigned each class * HW graded for Habits of Mind rubric * One graded assignments every two weeks or so

https://math.libretexts.org/Bookshelves/Calculus/Map%3ACalculus_Early_Transcendentals

[https://math.libretexts.org/Bookshelves/Calculus/Book%3ACalculus_\(Apex\)](https://math.libretexts.org/Bookshelves/Calculus/Book%3ACalculus_(Apex))

or

<https://openstax.org/details/books/calculus-volume-1>

Textbooks: <https://openstax.org/details/books/calculus-volume-2>

2 | Knowledge Points This Semester

- Limits
 - Epsilon delta proofs
 - Limit laws
 - Evaluating functions
 - Prove limit laws
- Continuity
 - Types of continuity + discontinuity
 - Define continuity
 - Intermediate value theorem
 - * Application +
 - * Boundedness
- Derivatives
 - Limit definition of derivatives
 - Define differentiability
 - Understand how the first and second order derivatives
 - Taylor Series approximations
 - L'Hospital rules for limits w/ indeterminate ratios, indeterminate products, indeterminate products
- – a final project

Everything you use on tests must be derived by you.

=> Make test corrections + consider reassessing (immediately) if necessary + meet with instructors & TAs during *Wednesday lunch* or *Friday tutorial*

3 | **So, what *is* Calculus?**

- The analysis of change
- Study of curves
- Study of rate-of-change

Rate of change

We have seen this before: **Slopes!**

The rate of change tells you the relation in the trend of the graph. Think! Negative and positive functions!

Definition 1 · **First order rate of change** How much is the function changing over a period of time?

Definition 2 · **Second order difference** How much is the rate of change changing over time?