#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

Textbooks:
https://math.libretexts.org/Bookshelves/Calculus/Map%3A_Calculus__Early_Transcendentals
https://math.libretexts.org/Bookshelves/Calculus/Book%3A_Calculus_(Apex)
or
https://openstax.org/details/books/calculus-volume-1
https://openstax.org/details/books/calculus-volume-2

---

2 | **Knowledge Points This Semester**

- Limits

    – Eplison delta proofs
    – e
    – Limit laws
    – Evaluating functions
    – Prove limit laws

- Continuity

    – Types of continuity + discontinuity
    – Define continuity
    – Immediate value theorem
        * Application +
        * Boundedness

- Derivatives

    – Limit definition of derivatives
    – Define differentialibity
    – Understand how the first and second order derivatives
    – Talor Series approximations
    – L'Hospital rules for limits w/ indeterminate rations, 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?