# MATH 205 Survival Guide - Resources & Online Calculators

By Frogge

# 1 Learning From Other People

#### 1.1 Student Success Center

Concordia's very own Student Success Center provides free 1-hour tutoring sessions and an exam review session at the end of the term.

I attended a review session and found it incredibly helpful so I highly recommend it. The tutor covered all possible question variants from past finals. I don't believe they offer midterm review sessions though.

## 1.2 Private Tutoring

Make sure the tutor knows the specifics of Concordia's evaluations or else this might backfire. If it's only to learn Calculus II theory however then it doesn't matter, since it's fairly universal.

#### 1.3 GradeSavers

GradeSavers know Concordia's exam format, traps, and tricks very well. They also have excellent notes which I used to study series convergence tests (no other cheat sheets came even close).

#### 1.4 Discord

During my time taking this course there was an active *Discord* server where members shared tips and prepared for exams together. One user even hosted a midterm review session. I highly recommend joining student groups.

You can find a few servers in the sidebar at https://www.reddit.com/r/Concordia.



Ok, i know im not a good student blu blu. here is my experience:

At first I had to take Math 203 and I really didnt spend time on it and I passed easily. then I had to take Math 204 and phys 205; I failed both of their midterms but I studied for them and passed the finals with good grades. but its not the same thing with Math 205. I failed the midterm did study for its final but I failed. I took it again over the summer and I ended up with a D which is not enough If your in ENCS. the third time I really studied for it and got an A.so if you wanna succeed in this course you have do the following:

- 1. if you can just take at Dawson before trying it at Concordia. almost everyone I spoke to told me that Dawson makes it easier to learn and get a good grade.
- 2. practice a lot. it really doesn't matter who is your teacher you just have to practice problems
- 3. the midterm worth 25 and final is 65 but if you mess up the midterm you have the option to make the midterm worth 10 and the final 80. but NEVER EVER let that fool you because if dont study up to the midterm then it would be really hard for you to catch up the rest of material, so make sure you'll do your best on the midterm.
- 4. Practice all the old exams. if you can solve the last 7 years of the test then you'll set.
- 5. go to the tutorials as well. you can get up to 5 percent if you do the quizzes. (It may not seem a lot at the beginning of the semester but trust me it WILL at the end of the semester)



Figure 1: This is pretty common.

# 2 Learning From Online Resources

Online resources will include topics in Calculus II (like Simpson's rule) that Concordia doesn't. **Use the course outline to avoid studying them.** 

#### 2.1 Past Exams

Here's a collection of past exams (midterms, finals, and a few solutions) kindly provided by nixin72.

#### 2.2 Slader

You may be disappointed to find that the course textbook contains only the answer but not the steps in its solutions. Find the full steps on Slader.

#### 2.3 Paul's Notes

Paul's Notes was my main reference and practice material (aside from past exams). It covers Pre-Calculus, Calculus I, Calculus II, and more.

#### 2.4 3Blue1Brown

*3Blue1Brown* has an excellent playlist on the theory behind Calculus. It complements Paul's Notes nicely by developing an intuitive understanding of Calculus, providing a refresher on Calculus I, and it's very short.

#### 2.5 Video Lectures

Professor Leonard and Organic Chemistry Tutor are some of the most recommended in this category. But in my opinion video lectures are way too long.

*Paul's Notes* are quicker to read, easier to consult when needed (unlike scrubbing through a video), and still provide detailed examples of all the edge cases.

## 3 Online Calculators

#### 3.1 Beware

There are sometimes more than a single way to solve an integral, evaluate a limit, or prove a series' convergence/divergence. For indefinite integrals specifically, different solutions can lead to different final answers (but this is not the case for definite integrals, limits, or series).

## 3.2 Derivative/Integral Calculator

derivative-calculator.net and integral-calculator.net are invaluable. Don't forget to check out their Options tabs for advanced features like definite and improper integrals.

Also the integral calculator sometimes lets you choose between multiple approaches which can be useful to verify the specific steps you chose.

# 3.3 Desmos Graphing Calculator

Desmos Graphing Calculator helps validate sketches of signed area, area between curves, and volume of solids of revolution graphs.

## 3.4 Symbolab

Symbolab is a paid service (to unlock full steps) but I think it's well worth the price because it provides so many useful calculators that I couldn't find anywhere else.

I don't know if this is still the case but a 1-year subscription through *Google Play* (for a universal license - not locked to a phone) was less expensive than subscribing directly through their website.

Some of its more complicated calculators (like for series or volumes of solids) may not be able to solve all problems thrown at them but that doesn't happen very often.

### 3.5 Symbolab Calculators

- Derivatives/integrals
- Limits
- Area between curves
- Volumes of solids of revolution
- Series convergence/divergence
- Power series interval of convergence
- Maclaurin series
- ...and more

Search "Symbolab X calculator" in *Google* to find the link to a specific calculator of your choice.