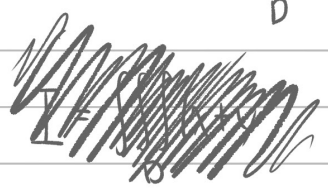


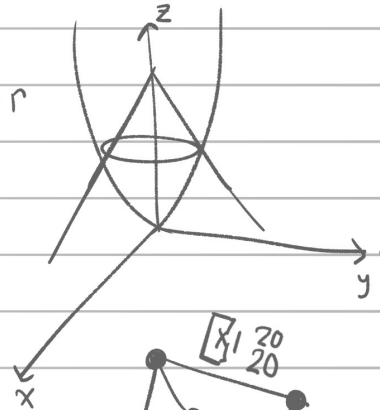


$$I = \iint_D (x+y) dA = \int_{-2}^2 \int_{x=0}^{4-y} (x+y) dx dy$$

# CLASS

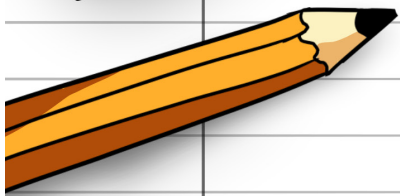


$$z = 2 - r$$
$$z = r^2$$
$$r = 1$$



# IS

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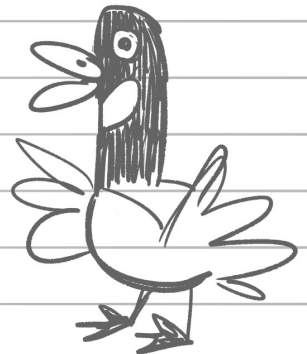


# SESSION

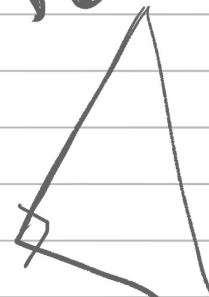


honk!!!

# $\pi$



$$\|\vec{x}\| = \sqrt{\langle \vec{x}, \vec{x} \rangle} = \sqrt{\vec{x} \cdot \vec{x}}$$



$$\sqrt{i(-i) + (1+i)(1-i) + (2-i)(2+i)}$$

## “WHAT DO YOU WISH YOU'D KNOWN IN FIRST YEAR?”

Hello and welcome to you, first year Math student!

This is **mathNEWS**, the University of Waterloo's bastion of erudite thought, and official newspaper of the Faculty of Mathematics. We've been running since 1973 and publish a new issue every two weeks, usually six issues a term.

An issue of **mathNEWS** is made of a lot of different parts. After the cover is what we call the **mastHEAD**, composed of a blog-style article written by the editors (a.k.a. the one you're reading right now) and a question and answer section with our writers. This issue's question is “What do you wish you'd known in first year?”, wherein the **mathNEWS** writers and editors give advice they wish they had when they were young grasshoppers like you.

The bulk of the issue is formed from the many articles and pieces of artwork we get from the **mathNEWS** community. This **mathNEWS** Special Edition™ focuses on articles from faculty clubs and other informative articles and first-year anecdotes from our writers. There is still some of the classic **mathNEWS** spirit, which is to say utter chaos. We've got low-effort articles that are derivatives of others, inside jokes, and surrealist comedy. Keep an eye out for a quippy, inline “Editor's note” clarifying things here and there, since some of the articles in this issue were written before we knew what the upcoming term was going to look like. Not in this issue are poems, articles written by profs, **profQUOTES**, research papers, terrible puns, and passive-aggressive complaints about profs and courses.

At the end of the issue we normally have our crossword puzzle, the **gridWORD**, occasionally joined by another puzzle called the **haltingPROBLEM**. On the back there is the **lookAHEAD**, a two week calendar of upcoming events that mathies might be interested in. The publication date of the next **mathNEWS** issue is the highlight, of course.

That about wraps it up. Best of luck with your new university career, try to resist the urge to read **mathNEWS** instead of doing your assignments. I know it's tempting.

See you around!

clarified  
Editor, **mathNEWS**

**CC** You may have peers with what seem like really impressive credentials - don't be worried! Everyone's still just a first year, you're not any less deserving to be here, and no one worth their salt will not want to be friends with you just because you might have a few less fancy lines on your résumé.

**FINCHEY** It's okay to make mistakes and do regrettable things. You're just a teenager and you still have so many new experiences of you. Go with the flow.

**CIX** Everyone's just as anxious to make new friends as you are.

**ALYSSNYA** If you pretend to know what you're doing, people will think you know what you're doing (or the version I find more helpful: if you see someone who looks like they know what they're doing, it might just seem like they do).

**SANDWICH EXPERT** Grades are a social construct.

**TENDSTOFORTYTWO** Join clubs! Best way to make friends when you find it hard to talk to people, or when there's a pandemic going on.

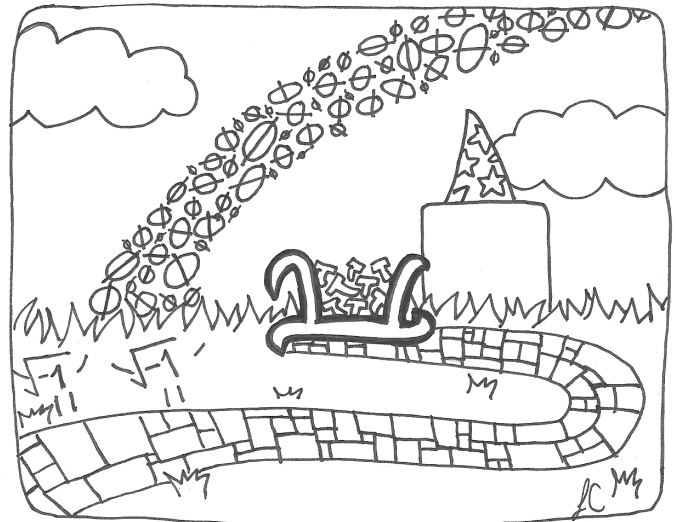
**QUANTUM GOOSE** The geese are really friendly! It's actually really easy to get close to them, you just gotta approach them slowly and sile - OH GOD THE GEESE ARE NOT FRIENDLY RUN RUN RUN

**A COOL PEN NAME** I haven't done first year year yet wait please no spoilers!!!

**TERRIFIED** You have a lot more and a lot less time than you think you have. Use it wisely.

**GOD ⚡ PEED** If you're like me, find an excuse to get of the house and talk to people, even if it's being funny in a newspaper.

**CLARIFIED** **mathNEWS** is awesome and you'll meet so many great people there!



## Welcome to Waterloo Math!

CLARA XI, **mathNEWS** EDITOR FOR FALL 2020  
ALONG WITH JAIME ANDERSON AND TERRY CHEN

# MATHSOC SEZ

Hello first-year Mathies!

Welcome to the Faculty of Mathematics! The Mathematics Society (or MathSoc, for short) is the student-government for the undergraduate math student body at the University of Waterloo. Given that you are a math student, you are already a member! The MathSoc office is located on the third floor of Mathematics & Computer Building (MC 3038).

## WHAT CAN MATHSOC DO FOR YOU?

Here's a small snippet of what MathSoc provides to you [*Editor's note: In a normal, pandemic-less term.*]:

- Awesome math T-shirts, sweatpants, ties and more
- Inexpensive printing and photocopying
- Free candy!
- Textbook library when you don't feel like spending all of your grocery money on textbooks
- Events like Pi Day (when you get to pie the MathSoc execs), Coffee House, Board Game nights, Party with Profs, résumé critiques, and more!

## HOW CAN I GET INVOLVED WITH MATHSOC?

Do you want a mentor to help you transition from high school to university? If so, sign up to be a mentee of the MathSoc mentorship program!

Are you into student government? Want to have your voice heard and make decisions that would have an impact on all math students? If so, represent your fellow first-year students as a first-year class rep!

## WANT TO CONTACT US?

President ([president@mathsoc.uwaterloo.ca](mailto:president@mathsoc.uwaterloo.ca)) — Reach out for:

- Questions regarding MathSoc clubs and external organizations, or about MathSoc itself

Vice President Academic ([vpa@mathsoc.uwaterloo.ca](mailto:vpa@mathsoc.uwaterloo.ca))

- Academic and co-op-related questions, concerns, and feedback
- Suggestions for exam bank, textbook library, and academic events

Vice President Operations ([vpo@mathsoc.uwaterloo.ca](mailto:vpo@mathsoc.uwaterloo.ca))

- Questions and feedback regarding the MathSoc office and the services we provide

Vice President Finance ([vpf@mathsoc.uwaterloo.ca](mailto:vpf@mathsoc.uwaterloo.ca))

- Questions about refunds, cheque reimbursements and club budgets

Vice President Internal ([vpi@mathsoc.uwaterloo.ca](mailto:vpi@mathsoc.uwaterloo.ca))

- Questions and feedback regarding MathSoc events
- Marketing requests (i.e., poster approval)

If you have any questions, send an email to [info@mathsoc.uwaterloo.ca](mailto:info@mathsoc.uwaterloo.ca), or message us on Facebook ([facebook.com/mathsoc/](https://facebook.com/mathsoc/))!

Have a great term!

MathSoc

# MATH O-TEAM SEZ

Thank you for (virtually) coming to Orientation! We (the Math O-Team) were disappointed we couldn't welcome you all in person, but we've been working hard to shift many of our classic (and some new!) events to an online format. One of the good things about this is that Mr. Goose will have a lot more space to do their thing on campus! Hopefully you enjoy all of the activities and had a chance to meet some of your classmates during Math Ready. We know this transition can be difficult, so if you have questions, feel free to reach out to your Pink Captain or us at [mathorientation@uwaterloo.ca](mailto:mathorientation@uwaterloo.ca).

Welcome to the Math family!

Eli, Josué, Kanan, Thomas  
2020 Math O-Team

P.S. check Portal for a schedule of all the O-week activities!



# MATH ENDOWMENT FUND SEZ

Hey Mathies!

My name is Andy, and on behalf of the Math Endowment Fund (MEF)'s Board of Directors, welcome to Waterloo! We hope that despite the circumstances, you will have an enriching and enjoyable orientation and first year.

## WHAT DOES MEF DO?

MEF is an \$8 million fund working to enrich the experiences of Math undergrads at Waterloo. Throughout your time at Waterloo, you may notice our logo everywhere, from hackathons, to club events, to design teams; in fact, MEF's logo is probably on your Orientation kit. This is because MEF allocates hundreds of thousands of dollars each year to sponsor and support student-led initiatives.

## TYPES OF FUNDING AVAILABLE

MEF allocates two major types of funding: Group funding and Professional Development Funding (PDF). Group funding is used towards initiatives involving multiple Math students, such as sponsoring conferences (ASNA, Grace Hopper, etc.), design teams (Midnight Sun, VEX U Robotics, etc.), and student clubs and societies (MathSoc, UW Finance Association, etc.). PDFs are for individual initiatives; if you would like to attend an event, publish a paper, or take extra-curricular courses online, PDF can reimburse part or all the cost.

## HOW TO GET INVOLVED

The easiest and best way to get involved is to join the Funding Council. You will have a direct say in how MEF allocates its money each term; you will also get free food and learn about the different extracurricular opportunities for Math undergrads.

After Council, there is an opportunity to join the MEF Board of Directors; the BoD is a multi-term commitment that sets MEF's long-term strategic direction. After BoD, there is an opportunity to be elected as the Executive Director, where you oversee MEF's operations for a term.

Please visit MEF's website ([mef.uwaterloo.ca](http://mef.uwaterloo.ca)) to view details on funding and how to get involved. Please feel free to email me if you have any questions or concerns ([mefcom@uwaterloo.ca](mailto:mefcom@uwaterloo.ca))!

Kind regards,

Andy Zhang  
MEF Executive Director (Spring 2020)

# WUSA SEZ

Welcome to UWaterloo from your Waterloo Undergraduate Student Association (WUSA)!

WUSA (represents the collective voice of UWaterloo undergrads. We're not the University: we're a not-for-profit student advocacy organization that is funded and run by Waterloo undergrads.

As an undergrad, you're automatically a member of WUSA!

## WHAT DOES WUSA DO FOR YOU?

Want to start a club, make change on campus, or improve your educational experience? We're here to help you make it happen!

## ADVOCACY

We represent your voice on issues like tuition and financial aid (OSAP), mental health, housing, co-op, campus safety, and transit (to name a few) to the decision makers at the University and all levels of government.

## STUDENT LIFE

All societies, including MathSoc, are a part of WUSA, which supports over 200 clubs as well as 13 student-run services like the Glow Centre, MATES, Sustainable Campus Initiative, and Campus Response Team.

## STUDENT GOVERNMENT

You elect your student representatives on Societies, Students' Council, Board of Directors, and WUSA Executive. Any Waterloo undergrad can run for a position on the Executive, Board, or Council.

## GET INVOLVED WITH WUSA!

Volunteer with a student-run service, run for a position in student government, or apply to one of our many on-campus part-time jobs – make the most of your time at Waterloo with your student association!

WUSA

**It's not how brilliant  
you are; it's how dumb  
you're not.**

PROF. IAN MUNRO

# MY FIRST YEAR EXPERIENCE: CHAPTER 1.

## ORIENTATION, HEARTBREAK, AND A NON-EMPTY SET OF FRIENDS

As I moved into my room in V1, I was greeted by a sign on my door. George Kennepotbunk it read. Of course, my real name is George Kennebunkport. I guess spell check was too much for my don. As my family helped me move in, I was off to SLC to get my orientation goody bag. It came with a key chain, math orientation sticker, and a condom, which lies a few meters away from me in my medicine cabinet as I write this. It's still unused, of course. After meeting up with a few friends from high school who are at Waterloo as well, I call it an early night to prepare for orientation activities the next day. Of course, I sleep in a bit, and am late to the first event. I manage to catch my group just as they are leaving. We get the headquarters for our team in MC. I sit next to some random guy, trying to start a conversation and make a new friend, but Jesus fucking Christ, could he be more boring to talk to? This is not the kind of person I want to hang around with. Finally we go off to our first activity, saving me from the awkward "conversation" I was stuck in. Maybe I'll have more success talking to girls, I think to myself. On average, I've found girls to be less awkward than guys. That's how I made my first friend at university: Alex. She's pretty cool, speaks three languages, and was rejected from CS too. At lunch that day Alex introduced me to her friends Carol and Azalea. Carol is a calm and quiet girl, and Azalea appeared to be as well. I later found out that Azalea was just toning her inner self down. She's actually super badass, breaks all kinds of laws, and is way too kinky—even for a city boy like me.

The first day of orientation was lots of fun, but the night was harder. You see, I had broken up with my girlfriend Penelope just a week before starting school here because neither of us wanted to do long distance. We knew from that start that it would eventually happen, but it was still hard. I missed her and I was still thinking about her often. I decided that I would keep myself as busy as possible for the first few weeks. As they say, time heals all wounds. I've learned that that saying

is mostly true. Sometimes there are scars, but eventually you turn out okay.

The next day I tried really hard not to be late to orientation, and ended up being a bit early. Morning activities were pretty so-so. At lunch I met a new friend: Thomas. Thomas is the gayest and most flamboyant person to ever prance about this green earth. Truly a delightful person to meet that my religious family would not approve of in the slightest. That afternoon, the info session for that advanced math sections was held, which I had enrolled myself in. I make very poor decisions, you see. In line I met a bouncy girl with glittering golden hair named Whild. At the info session I sat next to Wanda, who was very relaxed.

The professors seemed like their goal was to scare us. But hey, I did AP in high school, how hard could these "advanced" courses really be? Of course, as I would later learn, the answer to that is: the hardest fucking thing you've ever done in your whole goddamn life. I say that as someone who used to teach grade two students game programming in Microsoft Visual Basic. "Where is the Q key?" they would ask, "It's literally the first key on the keyboard." I would reply. That was a hard job.

With a new set of friends, and a non-empty set at that, I was ready to start university classes. And boy oh boy, was I not ready in the slightest.

The moral of the story? Orientation is what you make of it. If you want to be a bum and complain, you won't have a good time. If you stop taking yourself so seriously and learn the math dance by heart, you will have a fantastic time. "I can hear a voice from the other side of the room..."

George Kennebunkport

## THE FIRST-YEARS CORNERED

There are several things that one must remember from Orientation Week. Unfortunately, most of these things will be forgotten for various reasons. Below are a list of things first-years should learn over the course of the week.

- In a pinch, protractors can be used as spoons.
- On move-in day, if you let your parents go through your orientation kit first, there is a VERY uncomfortable silence when they see the condoms. *[Editor's note: I dunno if they gave out condoms this year. That wouldn't exactly encourage social distancing.]*
- A good pick-up line is, "What's your co-op sequence?"
- Through an odd warping of space-time, profs are able to talk for 2 hours in a 50-minute period.

- The more you learned in your final year of high school math, the more you have to un-learn in MATH 135 and 137.
- If your roommate is an engineer, you had best sleep with your tie on to protect it, much in the same way they will sleep with their hardhat on.
- Imprint absorbs twice as much liquid as the other leading brand of paper towels.
- Software Engineers do not like being called "Softies," but that's their name regardless of the undertone.

Ian W. MacKinnon

# MY FIRST YEAR EXPERIENCE: CHAPTER 2.

## DADDY JAO

It was my first day of lectures. We had received an email from David Jao earlier in the week, sent at 4:02am.

Hi,

I'm David Jao, your instructor for MATH 145 — Section 001. I'm very excited to get this class started — you are all in for a special experience.

First things first: If you look at your schedule, MATH 145 has a tutorial on Fridays at 1:30pm in STC 0060. If you are in my section (Section 001 — which you should be), **THIS TUTORIAL WILL BE USED ON THE FIRST DAY.** That is, you are expected to attend the tutorial hour on Friday, September 7 at 1:30pm in STC 0060, in addition to the lecture hour on Friday, September 7 at 2:30pm (also in STC 0060).

Other math classes at Waterloo do not start their tutorials until the second week of classes. MATH 145, as you will quickly discover, is like no other math class. [...]

Some of the first few assignments in this class require you to install and use the Coq proof assistant. [...]

We have a fabulous classroom, one of the best in the entire university. Every seat has its own power outlet so you can keep your computer powered on all class.

I want every single student to succeed in this class. Please do not hesitate to contact me anytime, by any means if you have questions.

-DAVID

Wow. Sent at 4:02 a.m., “special experience,” and “like no other math class.” What the hell did I get myself into? And Coq? I think I've heard of that. Is it what I think it is? It is. Dear god, what did I get myself into?

The first lecture was teaching us Coq, a programming language for programming math proofs. There were so many people in that first lecture that some people had trouble finding seats! We had an assignment on Coq as well that we were given that week. We had to prove things like  $-a \times -b = a \times b$ , something I never thought even needed to be proven. We had to come up with our own axioms for the integers, which was quite an incredible experience. I personally liked this axiom I came up with:  $\forall a \in \mathbb{Z} < a + 1$ .

Now, it turns out that proving  $-a \times -b = a \times b$  is hard. So I asked a girl I went to high school with, Mars, who was in 145 with me if she wanted to meet up and work on the assignment. She brought her friend Whild, who I had briefly met at orientation. We managed to get through that assignment while trying to avoid any Policy 71 issues. Those issues went away though after Jao said on Piazza that we are allowed to work together on assignments (as long as the

groups aren't too big), and so the three of us started working together a lot more.

Throughout the term, a few more people joined us. For assignment 2, we were joined by Chrysanthemum, who is one of friendliest and chilliest people I have met at university. We (re)discovered the continued fraction expansion of  $e$ , which remains as my favourite math fact ever. It turns out that  $e$ , a transcendental number, can be written as an infinite nested fraction whose terms are from a simple predictable sequence.

Once I went to a TA's office hours where I met someone in the class who asked us if we were part of the class group chat. This group chat is of course the famous Daddy Jao chat, which as far as I know is how David “Daddy” Jao got his nickname.

Later in the term we met Claire and Sasuke who joined us working on the assignments together. Having friends in the course really helped making succeeding in it possible.

One of the best parts of MATH 145 was the timing of Jao's office hours. He held office hours twice a week at the perfect time to fill awkward gaps in my schedule, so I attended religiously. In fact, some people proposed worshipping David “Daddy” Jao as an idol. Jao had a special ability to answer your questions without answering them. He would give you just enough to get you unstuck, without ruining the fun of the problem or the learning from doing it. He also gave out great life advice and had no issue answering math questions completely unrelated to the course topic. Once I asked him about p-adic numbers and since there was nobody else in office hours that day, he essentially gave me a lecture on what p-adic numbers are, which was fantastic. I learned that p-adic numbers are beautiful and I can't wait to study them more in future years.

The most memorable day of MATH 145 was the day before the final. I rushed through my PSYCH 101 final to make it to office hours, which for some reason had been moved to some room in DC instead of being in MC as usual. When I arrived there, I realized why.

Jao moved his office hours during the exam to a secret room in DC that contains magical amenities such as a rock climbing wall! We studied in that room for a while. At one point, someone, we assume a graduate student, stopped by, told us he was a friend of Jao, and offered us help studying for the final. It was really a wonderful experience.

The moral of the story? Jao is wonderful, go to your prof's office hours even if you don't have questions about the course, and if your prof allows it, work with friends. It can really enhance your learning.

George Kennebunkport

# MY WATERLOO READY INSPIRED GOALS

Hi there! I am an incoming mathie, and this is my first official attempt at a sincere article. Formal request to the editors: please virtually slap me if I start reverting back to sarcasm. I'm trying to be serious here. *[Editor's note: We gotcha.]*

Look, I'm a person who loves the prospect of being super organized and productive, but who also (unfortunately and inevitably) falls back into their self-destructive, toxic habits after about a week of pretending to be an actually put-together human being.

So in an effort to not completely doom my first term at UWaterloo, I'm writing the following goals down — nay, letting these goals be published — to make sure I feel enough guilt and societal pressure to stick to them. Kind of like those people who do work-out challenges and constantly post about it on social media. Hopefully, anyone reading this might also be inspired to do this **EXTRA HEALTHY HARDCORE SUPER PRODUCTIVITY SMASH CHALLENGE**. Let's begin.

- Clean room once a week (Saturdays)
- Spend at least two hours a week, in-person, with a non-family member (ie. "friend")
- Leave the house every day, with the intent of doing homework outside of room at least every second day
- Go to the gym at least twice a week (Tuesdays, Saturdays)
- Cook at least one meal a week for entire family — like the self-centered blob I am

- Do not spend more than 15 minutes lying in bed after alarm clock goes off
- Spend at most 50 minutes on Instagram per day
- Regularly participate in at least two extracurricular clubs from Waterloo
- Do not regularly participate in more than six extracurricular clubs from Waterloo
- Do not cry when really don't want to do an assignment — instead, calmly scream into pillow and proceed
- If need to get something started according to the To-Do list, give one dollar (\$1 CAD) to brother for every fifteen minutes spent procrastinating
- Do not use opportunity of pre-recorded lectures to incessantly pause the video and write every detail down
- Go to bed before 11 p.m.
- Drink a cup of tea and eat at least one vegetable every day
- Do not share personal details with strangers via the Internet
- Stop using **mathNEWS** as self-help outlet

*A cool pen name*

The challenge starts September 8<sup>th</sup> so everything is fine now where are my cheesy nachos *[Editor's note: No! No cheesy nachos! \*slap\*]*

## YOU CAN CHANGE YOUR NAME

Welcome! In clichéd language, you've turned over a new leaf, you're starting a new chapter in the story of your life, etc. If you don't feel that way right now but you *do* want to abandon a part of your past, here's a way to bring that sentiment alive.

The systems here at Waterloo allow you to set a preferred name, completely separate from your legal name. It's very easy and can be done through WatIAM, and it updates in about two days, but some changes may not be reflected until the next term. Since it's just your preferred name, it doesn't require any legal documents or anything like that.

Updating your preferred name will change your name across a variety of platforms used at Waterloo, including LEARN, but it probably won't change the name on your WatCard and it definitely won't change the name on all official documents, such as exams, proofs of enrollment, and transcripts. Those will still use your legal name.

You can now use your new name in all sorts of ways. Remember to introduce yourself using your new name. It will feel likely feel awkward at first, but you'll get used to it. If you are in co-op, write your new name on your resumes and cover

letters; you don't have to use your legal name. Practice writing it out, although you'll still need to write your legal name down on assignments and exams. Consider changing your Facebook and other social media profiles to your new name, if you aren't using a different pseudonym anyway.

There is also a form to change your gender.

If this is something you've always wanted to do, please go for it. More likely than not, you're already experiencing a lot of new things right now, and you're surrounded by more people that don't know you for the first time, so it's the perfect time for experimentation. Yes, I did this, and it was strange at first but it was something I knew I needed to do.

*If you're a prospective student and not enrolled or "in the system" yet, you can do this even easier by writing your new preferred name and gender on your OUAC application. I believe that the OUAC does require you to choose from a legal binary sex, but crucially, the UW application does not. Applications for campus residences are also very accommodating.*

# MY FIRST YEAR EXPERIENCE: CHAPTER 3.

## THANKS, KEN

It was time for my first ever math lecture! MATH 147 with Dr. Kenneth Davidson, where on the first day, he gave us axioms for the reals. We also had an assignment already and orientation week wasn't even over! He said that if you can't handle the first assignment, you should drop the course. Well, I couldn't handle the first assignment, so I went to our TA's office hours.

The next lecture consisted of some theorems, a proof for each, and a few examples. The lecture after was the same. And so was the lecture after that. Apparently university math classes are just theorem, proof, example, repeat. Kind of repetitive, but all of the math professors seem to have their own unique style of humour to keep things interesting.

The midterm was coming up. I never needed to study for tests in high school, but I heard university is harder. Guess I'll study a little bit. When it came time to write the midterm, I opened up the paper. I couldn't solve the first problem. No biggie, let's go to the second. Nope. Third? Nope. Fourth? Fuck me. Fifth? Motherfucker. Sixth? Why am I like this. Seventh? WHAT THE FUCK, THERE ARE ONLY SIX PROBLEMS! Guess I'm going back to the start. Is this how limits work? I dunno. What is this limit?  $e^x$  seems as good a guess as any. I thought I had passed, and I definitely passed if he dropped the denominator, which he had done on all of the assignments. Was I ever wrong. One morning I get out of the shower, and my phone lit up. Email from Crowdmark. My midterm had been marked. 43%. Fuck me. I'm scared. What now? I went to the 147 lecture that day, and Ken starts by writing the midterm mark distribution on the board. He puts a line through it. "If you're mark is below this line, and you're not planning to drop to 137 already, you should really talk to me first."

Well you see, I'm a stubborn person. If you tell me not to do something, I will fucking do it. My high school physics teacher once told me not to do the topic I wanted to do because it was too hard. He got a 60 page research paper to read through from my group.

I went up to our professor after class and said, "Professor, my mark was below that line but I don't want to drop this course," and so we set up a meeting for later that day in his office. My friends Mars and Whild went with me and waited out in the hall for me. That was by far the most terrifying experience I have had. Meeting with a professor because you fucked up the midterm so hard? That shit is scary, but it ended up not being too bad. Ken turned out to be really nice and understanding. After discussing why I don't want to drop, and looking at what I messed up on the midterm (everything) he told me I could stay, but I'd have to work hard. So I did. I asked him for a book recommendation on proofs and started reading through it whenever I had some time. That book really helped. It's called *Reading, Writing, and Proving* and Waterloo students can download it for free (when connected to eduroam) at [link.springer.com/book/10.1007/978-1-4419-9479-0](http://link.springer.com/book/10.1007/978-1-4419-9479-0). Definitely recommend to anyone struggling with proofs.

I studied my ass off for that course after that. I read through that book until I was comfortable with proofs, I went to my TA's office hours almost every week (I swear that I would not have passed the course without that TA), and during exam time, I locked myself in my room and studied for a week straight. No breaks. When I ate breakfast and dinner (I skipped lunch to study) I would be reading notes. I manages to pull a 79% on the final (before the curve) and finished the course with an 85% (after the curve).

The moral of the story? Don't let yourself get down because of a few bad marks. Even if you get one mark so godawful the professor tells you to consider dropping the course, if you work your ass off, you can still do well.

George Kennebunkport

## THE MASCOTS

You may have already had encounters with the faculty mascots (including our beloved Pinkie the Tie <3) and King Warrior, the university mascot. Now I love the mascots and all, but they kinda look out of place, you know? With all the geese that are on campus, I think it's time for us to respect our true overlords and change the mascots to something that truly represents us. Here's what I'm proposing:

- Math: a goose wearing a pink tie
- Science: a goose wearing a lab coat and safety goggles
- Arts: a goose wearing sunglasses
- AHS: a goose holding a Frisbee
- Environment: a goose wearing a "banandana"
- Engineering: 4 geese wearing hard hats with 2 of them chained to the tool
- Main mascot: a big goose (mother goose) holding a sword and wearing a helmet

honk

Once, we got pizza with a charcoal-infused crust for Production Night.

Just the once, though.

A mathNEWS PIZZA CONNOISSEUR



# A HOW-TO GUIDE FOR THE ADVANCED COURSES

## AND WHY THEY'RE NOT QUITE AS SCARY AS YOU THINK THEY ARE

Do you remember choosing your courses this past summer, and reading about MATH 145 / 147 and CS 145? These are the so-called “advanced” level math and computer science classes that you can take in your first term in math at UWaterloo. This is an article intending to clarify the role of the courses, and emphasize why you should consider them.

The advanced math courses are called “advanced” not primarily because of a difference in difficulty level, but because of a difference in approach. The advanced math courses focus on teaching you theory and proofs, as opposed to applications. In the advanced math classes, you will see definitions of mathematical objects and properties, as well as statements and proofs of general mathematical statements. On your assignments, you will be expected to use these results to prove (or decide the truth of) other statements. The focus is on a theoretical understanding of math in the abstract case, as opposed to how to use math to compute things in concrete cases.

Doing assignments in advanced math courses is a lot like solving puzzles. You are given all the pieces of the proof, all the ideas, terms, definitions, and theorems you will need, and you just need to figure out how they fit together to complete the proof. Admittedly, these puzzles will sometimes be significantly more challenging than the similar ones that you would see in the regular honours level courses, but it tends to be the case that if you participate in the course and put effort into it, you'll gain the tools to succeed.

The advanced level computer science course, CS 145, is a faster-paced version of CS 135, where you jump right in to high-level abstraction and algorithms. In much the same way as the math courses, CS 145 does emphasize the theoretical aspect of programming, but it also challenges you to work on how to code effectively and efficiently. This, and the follow-up course CS 146, can be great starting blocks for a successful CS degree and career.

Note that it is indeed true that the advanced courses are not for everyone. Not everyone appreciates or needs to know the theoretical aspects of algebra or calculus or computer science, and that's just fine. However, if you are interested in what the advanced courses are all about, there is no reason you should be wary of trying to take them.

There is theoretically (hah!) no downside to enrolling in the advanced courses—you can drop from the advanced courses to the corresponding regular level course at no penalty, right up until the end of the drop WD period. This is a special policy that is designed to give you the opportunity to succeed. Practically, this is a bit of an issue if you actually do drop down very late in the term, because you will probably have not had the same amount of practice as the students in the regular level course at some of the more computationally heavy portions of the course. Talk to your professor and advisor as soon as possible if you end up contemplating this option.

Now that you know a bit more about the advanced courses, and are hopefully intrigued by them, you should learn how to enroll in them! If you didn't have the option to do so earlier, you'll have to talk to the instructors who are teaching the courses and fill out course override forms which you can submit to the Registrar's Office. Procedural information can be found online.

If you are trying to transfer courses, and you haven't yet, try to at least sit in on the lectures of the target class. *[Editor's note: This is usually a good idea, except that there are no in-person lectures for the advanced courses this term.]* Keeping up on the material in the advanced courses is highly important, especially early on.

Once you're in an advanced course, be sure to put effort in! They are usually more challenging, if not by design, but they are very rewarding, both epistemologically and grade-wise, since the idea is that if you are in the advanced courses, you'd probably do very well in the regular level courses. This is dependent on the work put in, of course. Note that your class is much smaller than a usual first-year math course, and so it's not only easier to meet others in the class, but establishing relationships with them and with your professor will be much more fruitful, as you can work on problems together or get help. The advanced math community tends to be close and supportive, so you'll never be alone in any struggles you might have.

Best of luck!

Scythe Marshall and TheIdentity

## NOT SO “STRAIGHT AND NARROW”?

Hey mathies (and anyone else fortunate enough to be reading this awesome publication)! If you are gay, lesbian, bisexual, transsexual, pansexual, queer, questioning, or stray in any other way from the “straight and narrow” path of cisgender heterosexuality, you are not alone! The Glow Centre For Sexual and Gender Diversity, located on campus at the Student Life Centre, room 2102, is a safe space where you can meet

similar people and/or seek support. Glow offers discussion groups, social events (including an annual trip to Pride Toronto), awareness campaigns, and other resources. For more information, visit [www.wusa.ca/glow](http://www.wusa.ca/glow) or email [glow@glow.wusa.ca](mailto:glow@glow.wusa.ca).

TheUndecided

# COURSE SELECTION: WHAT YOU'VE SEEN AND WHAT'S TO COME

Ickle firsties! I remember my first issue of **mathNEWS**, printed on paper and stuffed into my real life orientation bag like some kinda old-age heathen. Of course, now we have moved on to more modern times, where **mathNEWS** is delivered only as PDF, orientation is (replaced? complemented? I don't know) by something called Waterloo Ready, and the world as we know it is slowly morphing into the socially isolated utopia of every UW math student's dreams (and/or nightmares).

Now, one of the most important things you need to do as a student at UW is choose your courses. Now, while most of you have a fairly amazing amount of choice as to what courses you can take, there are some requirements that you need to check off according to your chosen (or to-be-chosen) major. Some courses are mandatory, others are more like “do any  $x$  courses out of this list of  $n$ , for some  $x \leq n$ ”, and yet others are like, “these are completely unnecessary and you'll be completely fine without them but *you can if you want to*”. All this can seem a bit daunting and intimidating at first, but I have here a couple of tricks that make the whole thing a lot easier to manage.

## EASY WAY OUT FOR CS STUDENTS — SUGGESTED COURSE SEQUENCES

SUGGESTED COURSE SEQUENCES FOR CS STUDENTS:  
<https://cs.uwaterloo.ca/suggested-sequences>

If you want a really structured plan that takes care of a lot of the thinking and planning for you (and you are a BCS or BMath CS student), then the above website gives you a pretty great starting point for how to plan your courses. You still need the knowledge in the sections below, but knowing this stuff really helped planning my courses out for me. There are a couple of caveats that I'll mention as we get to them, but in general it's a good place to start.

## STEP 1: FIGURE OUT WHAT YOU NEED TO DO

UNDERGRADUATE CALENDAR: <http://ugradcalendar.uwaterloo.ca/>

The University of Waterloo undergraduate calendar is *the definitive source* of what exactly you need to do to graduate. It lists how many units you need (most courses are 0.5 units), how many units you need from certain disciplines (for example, CS students need one unit [so two courses] each from humanities, social sciences, and sciences), how many

units you can fail, what exact course codes you need to take, and more.

## Bachelor of Computer Science

Students in this plan must fulfil all the requirements in [Table I](#) and the following:

One of

- CS 115 Introduction to Computer Science 1
- CS 135 Designing Functional Programs
- CS 145 Designing Functional Programs (Advanced Level)

One of

- CS 136 Elementary Algorithm Design and Data Abstraction
- CS 146 Elementary Algorithm Design and Data Abstraction (Advanced Level)

One of

You want to, at least once an academic year, open up the Academic Plans and Requirements section under the Faculty of Mathematics, find your major, and see what courses you need to do in the coming year, and get an outline for what would be coming in the years ahead.

## STEP 2: FIGURE OUT HOW TO DO IT

UW FLOW: <https://uwflow.com>

SCHEDULE OF CLASSES: <http://www.adm.uwaterloo.ca/infocour/CIR/SA/under.html>

UW Flow is a brilliant website. It can tell you nearly everything about a course — timings, professors, prerequisites, student reviews... you name it, it's probably there. The only drawback is that technically UW Flow is *not a University of Waterloo official site*. It draws from official sources though, and it can be helpful to know what these sources are and check them out directly.

The general details of a course that don't change over time, like the course description, title, prerequisites and all, are pulled from the undergraduate calendar. The things that change term to term — how many classes are offered, which professors are offering them, and so on, are pulled from the Schedule of Classes.

Now, the Schedule of Classes is a really weird thing. You go there, and you select what course code you want to look up, and you select what term you want to look it up for, and it will tell you everything you need to know in a weird, scary-looking table.

Subject	Catalog#	Units	Title																	
CS	241E	0.5	Found of Seg Prog Enriched																	
	Class	Comp Ser	Camp Loc	Assoc.	Class	Rel.1	Rel.2	Enrl	Cap	Enrl	Tot	Wait	Cap	Wait	Tot	Time	Days/Date	Bldg	Romm	Instructor
	972B	LEC 041	ONLN	ONLINE	41			80	86	0	0					TBA				Lhotak,Ondrej
	Reserve: CS (No SE) students																			
	Reserve: Software Engineering Students																			

There's a lot to unpack here, but a few things you should know:

Ceci n'est pas filler.

A SURREALIST blackBOX

1. **Enrl Cap:** This is the maximum number of students that can be enrolled in a class or a reserve.
2. **Enrl Tot:** This is the number of students currently enrolled. You might notice in my screenshot that this number is greater than the maximum—sometimes (but rarely), a professor might give you an *override code* to join the class despite the enroll cap. 99% of the time, once this hits the cap, you can't enroll.
3. **Reserve: X students:** a certain number of seats in every course are reserved for students that meet some specific criteria. This is to make sure that these students are on track for their degree requirements—for example, to prevent ECON 101 from being filled by math majors looking to fulfill breadth requirements, a certain number of seats may be reserved for Economics majors. That said, a few days into the term, reserves will generally be lifted, so you can enroll into “reserved” seats if they are not full by then.
4. **Class:** You can input this four digit code in Quest to enroll into a class directly without going through the weird search interface. Quite nifty, if you ask me.

Most of the other information is available in a more accessible format on UW Flow, but it's updated more frequently here and UW Flow doesn't (yet) handle reserve information. So if you see free seats on UW Flow but can't enroll, you can check the Schedule of Classes to see if they've filled up since then, or if they're reserved.

### STEP 3: FIGURE OUT WHEN TO DO IT

IMPORTANT DATES CALENDAR, REGISTRAR'S OFFICE: <https://uwaterloo.ca/registrar/important-dates/calendar>

There are a few main sets of dates that you need to be familiar with:

1. **Course selection period:** Generally happens  $\frac{3}{4}$  the way to the end of the previous term. Here, you choose which courses you would like to have next term. This period is *not* first-come first-served.
2. **View next term's schedule and appointments:** You learn at this point what courses from step 1 you got into. If you got into all of them, great, you're done! If you didn't get into some courses or if you'd like to change your schedule, read on. You also get the date and time for when step 3 starts for you.
3. **Drop and Add periods:** These two periods start at the same time for you (though the starting time differs for every student), but end at different times. During the Add period, you can add new courses.

During the Drop period, you can remove courses you are enrolled in. These periods *are* first-come first-served—if you need to add a popular course, you need to hurry! When both of them are happening, you can “swap” courses (essentially drop one course and add another in a single atomic action—you don't get dropped if you were unable to add) as well. The Add period ends before the Drop period, because the university lets you drop a course a pretty long time into the term with a full fee refund—long enough that having the Add period open that long doesn't make sense.

4. **Reserves lifted:** This typically happens a few days after the term starts, and close to the end of the Add period. At this point, if you wanted to enroll into a course but you were previously stopped by a reserve, you should be able to enroll now. You'll have missed a few days of work, but that's easy to catch up on.

For more details on these dates, and for generally a good idea of when academically important stuff is happening, it's a good idea to keep an eye on the Important Dates calendar. That said, generally the university will shoot you an email reminding you of the correct dates if you didn't check the calendar for whatever reason (maybe you didn't read this article?).

### STEP 4: DO IT

QUEST: <https://uwaterloo.ca/quest>

COURSE SELECTION PERIOD, REGISTRAR'S OFFICE: <https://uwaterloo.ca/registrar/registering-courses/course-selection-period>

DROP/ADD PERIOD, REGISTRAR'S OFFICE: <https://uwaterloo.ca/registrar/registering-courses/dropadd-period>

You may remember Quest from the pre-admission trauma it inflicted on you. Good news, it never goes away! All of the above steps were just us hunting-gathering information. The actual enrollment process for every course happens on Quest.

The Registrar's Office has some pretty detailed guides on how to do nearly everything you might need to do on Quest during course selection and drop/add, so here I will just refer you to the links above and wish you luck!

You know profQUOTES  
are fake, right?

PROF. DAVID JAO

## GETTING HELP

ACADEMIC ADVISING, FACULTY OF MATHEMATICS: <https://uwaterloo.ca/math/current-undergraduates/academic-advisors>

MATH ADVISORS EMAIL: [mathadvisor@uwaterloo.ca](mailto:mathadvisor@uwaterloo.ca)

If you get stuck anywhere or have any questions, don't worry! There's always an academic advisor here to help you out. They can help you with understanding enrolling in courses, but also course requirements, declaring your major, and much more. You can email the advisors for the entire faculty of math, or (recommended) open the link above and find out how to get in touch with the advisors of your specific program.

Cool tip: if you want to get into a full/reserved course, you'll have a much better shot emailing the professor directly rather than emailing advisors. Also holds if you want to get into an advanced/enriched course but don't meet the requirements.

## CONCLUSION

And that's it! That's basically everything I know about selecting courses, and I've enrolled in three terms worth of courses with no major problems with this information, so it should probably be enough. Now go forth and enroll in courses hither and thither and yon, because that's how one gets out of this hell lovely place known as UW math!

tendstofortytwo

## TAKING A MINOR

One smart thing to do with your degree is stick more words on it. There are two common ways of doing this at UWaterloo—heh, well, maybe three, but this column is far too short to discuss taking a joint. You can do the double major thing, or you can just throw a minor onto your degree. So what kind of minors are there? Well, there are those in math and those not. For mathie minors, you need a bunch of courses, but frequently they just overlap the ones you're taking so it turns out to be like four or five courses, perfect for filling up your math-course requirement without taking all STATs or something foolish. Now, for outside of math minors—perfect for those thinking of becoming teachers who want a non-math “teachable”—these take around ten courses, so plan ahead. It gives some structure to your electives, but they require you to take specific stuff that is only available in certain terms—hey, like why I can't finish my English minor on time. So, in conclusion, think about one, but try to plan early.

Allen MacLeon

## USEFUL LINKS I MANAGED TO FIND IN WATERLOO'S BYZANTINE WEBSITES

If you're like me, you might have been lulled into a false sense of security with the illusion that is the Waterloo website directory. At first, I was so confident as an incoming frosh that I was arriving into safe hands with plenty of resources, a great user interface, and the loveliest colours in the design (for real, the math faculty pink is sensual). However, if you're like me, you've also soon come to realize that holy shit how does anyone navigate this? The websites give the appearance of being easy to navigate, but good luck finding that one page you saw in April that provides you with exactly the information you're looking for if you don't have it bookmarked (I have 67 pages bookmarked at the moment).

While I am sure that fourth years achieve the level of mastery required to confidently peruse these sites, we don't have that kind of luxury. Luckily for you, I spend a lot of time online, and I've compiled this list of really useful, first year friendly stuff that I've found deep in the Waterloo directories (as well as other miscellaneous items).

Full disclosure: no one really told me if this issue of **mathNEWS** will be physically printed. Wouldn't it be funny if you were holding a paper copy of this article and here I am giving you links to look at..! Honestly, if that's the case, just skip this article—save me the embarrassment. Or go to <https://mathnews.uwaterloo.ca/> to access this issue online.

Otherwise, without further ado...

- <https://lib.uwaterloo.ca/web/assignment-planner>

If you're worried about time management, let Waterloo do the work for you! This literally plans assignments for you. I love how it starts planning from the current day and only gives you a few days for each step so you immediately get that rush of anxiety that a deadline is coming up.

- <https://athletics.uwaterloo.ca/sports/2020/5/5/physical-activity-and-nutrition.aspx>

This one's for people who don't like to exercise but feel like they need to. I honestly can't give you any more details because if I had looked farther than the heading I'd be too emotionally obligated to do ...physical activity... and make my body unpleasantly moist with all that sweat stuff.

- <https://uwaterloo.ca/food-services/nutrition-0/kitchen-and-grocery-resources#Kitchen>

Check this out if you don't want to sustain yourself purely on Dairy Queen and McDonald's come fall.

- <https://uwaterloo.ca/food-services/nutrition-0/recipes>

This is for people who are going to do the cleaning and leave their future partner to do the cooking

- The 2025 Waterloo discords

There's two servers available for first year math students. Kool kidz only. Kidding. If you're not already in them, imagine Piazza but it's mostly memes. I'll leave finding the links to you! DM someone. Or maybe Google knows. Unlikely.

- <https://www.facebook.com/>

Now, this one's not part of the Waterloo database, and to be honest it's kind of a sketchy site; not many people have heard of it. Be careful of scammers and your racist uncle. But in terms of finding out how to contact clubs, this is your best bet. Trust me.

- <https://www.facebook.com/mathsoc/>

I'm assuming that **mathNEWS** readers are, well, math students. This is kind of our niche.

- <https://wusa.ca/clubs-services>

Good place to search for clubs, you know, if you're unsure of what kind of person you want to be in university.

- <https://uwaterloo.ca/library/research-supports/academic-integrity/academic-integrity-tutorial/check-your-understanding>

Do this quick tutorial if you want the university to place a shred of trust in you. Hint—always pick C.

- <https://uwaterloo.ca/watcard/get-my-watcard>

Watcard for you! And a Watcard for you! And you get a Watcard!

- <https://contensis.uwaterloo.ca/sites/open/resources/GettingReadyToLearnOnline/table-of-contents.aspx>

This looks like an online course for how to learn online for online courses before online courses became online online courses and in-person courses became online in-person courses. Good luck.

- <https://uwaterloo.ca/student-success/academic-development>

Bless the pure souls at the Student Success Office (SSO) who think about our oncoming suffering.

- <https://uwaterloo.ca/student-success/resources>

For the acute minds that noticed this link is actually the first link on the page from the previous link—yes, okay, you got me, congratulations, but also this page deserved its own spot. Who knew that I read a page an hour because I suffer from “faulty eye movements”? Not me. Point is: read this, I swear it might have a chance of helping you.

- <https://uwaterloo.ca/writing-and-communication-centre/waterloo-ready-write>

Just like the SSO, the Writing and Communication Centre (WCC) is available to make sure you don't slack off during those hard times ahead.

- <https://uwaterloo.ca/writing-and-communication-centre/pj-friendly-writing-groups-undergrads-0>

Doesn't this take you back to your childhood? Something about being in your PJ's in front of other people is just so exciting! These groups will start in the first few weeks of September, so keep an eye out.

And that's all folks! You're now ready to navigate the confusing labyrinth of Waterloo's websites all by yourself (just don't touch the horcrux at the end).

*A cool pen name*

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## TAKING A MINER

One smart thing you can do with your free time is kidnapping. There are two common ways of taking a miner at UWaterloo—heh, well, maybe three, but this column is far too short for such interpretations. One involves kidnapping, while the other, umm, also involves kidnapping. It's really all about who you kidnap. I am not a big fan of kidnapping the young, so I'm going to recommend you take a grown-up miner. Of these, there are several kinds available for the taking. Uranium miners tend to have radiation issues, so try to keep your distance. Coal miners are typically less biologically dangerous; however, there is the mess issue. Those who work in sepulchres or open-pit mines don't usually get covered with as much murk and mess, so I find them the best after the act of taking a miner, but getting them is awkward. Miners who work in shafts can be taken from their shafts a lot easier than kidnapping open-pit workers. So, in conclusion, kidnap guys who work in clean shafts. Or Shaft.

*Davey R. Adams*

# MY FIRST YEAR EXPERIENCE: CHAPTER 4.

## CO-OP

Eventually 1B came around and it was time to start applying for co-op jobs. Fuck. I had a lot of programming experience, but I still can't compete with upper years.

How do you write a resume? I heard from someone that MathSoc was holding resume critiques, and so I went. Got my resume destroyed by an upper year who happened to go to the same high school as me. That was fun. Did a new one, applied to 50 jobs for main round.

On the first day of interview selections, an interview came to me! In the interview I was asked about lambda functions, and thanks to the wonders of CS 135 (praise be to our Racket overlords) I was able to handle the question!

I got 4 more interviews for dev jobs, fairly uneventful interviews. I got some interesting interview questions. One interviewer just asked me about one specific project on my resume from a year ago in excruciating detail, as if a normal person would remember on the spot what specific data structure was used for the frontend and backend to communicate in some project from over a year ago (I think it was JSON, it was a high-tech project). I was asked how to write a program to calculate the cost of washing windows. TD asked an actual coding question!

Eventually rankings day comes around. 4 no ranks, 1 rank. Very sad. Match day comes around. WaterlooWorks goes down. WaterlooWorks comes back. I am unemployed, very sad. But what is this? An email from WaterlooWorks! I was matched with a job? How? Let me message my advisor because I'm not seeing this on the site. Oh great. It was a mistake. So very sad. Continuous time.

Let's apply to every developer job in my big city hometown. Am I desperate enough for QA? Okay, let's do just one QA. Why is there a job under "Junior" that's asking for a Master's degree? It's a blockchain job! Let's apply just for the hell of it, no way I'm getting it.

Not selected for QA. Oof.

One day, I'm in my CS lecture. "Congratulations! You've been selected for an interview." Oh shit. What's this? How the fuck was I selected for the blockchain job. Actually. Was this a mistake? Time to learn what blockchain is I guess. I texted my mom about it, and she sent me an online blockchain course that I did to prepare for the interview, but what really helped was watching the 3Blue1Brown video on Bitcoin.

I walk into the tiny webcam interview room. Is that ...? No. I sat down and I hear the interviewer ask me "Do you know this guy?" while pointing at the man next to him. It's my friend from high school; I guess he's on co-op there right now and is helping with the interviews. What. Anyway, the interview goes terribly, but that's not my fault. Skype kept freezing and disconnecting. So terrible. I was very upset about it, and

then after the interview finished I went to MC hoping to get some pi day pie, but it was all gone! So sad. That night, I was ranked no offer. Ready to give up, I drafted an email to my old employer asking for a job, but miraculously, I was matched the next morning! How did this happen? Nice though! Time to delete that draft email I had ready to ask for a job at my old workplace.

The moral of the story? Never give up! You can do it!

George Kennebunkport

## 7 ALTERNATIVE USES FOR TEXTBOOKS

So you were all excited and bought all your textbooks during Orientation Week. Now, the day of the exam, you say to yourself, "I spent \$150 on that book, I really should open it at least once." So here's a list of some things you can do with textbooks:

1. **Weight training:** Books are heavy, weighing quite a few pounds each, and are easily lifted.
2. **Look smart:** Books are a means to show off the fact that you are educated and usually weigh less than a stone.
3. **Fly swatter:** Once, during a lecture, Prof. Jackson took his backpack and threw it at a wasp on the ceiling. Do you really think that it would have killed the wasp without a textbook in it which weighed more than twenty Newtons? Really?
4. **Building cardhouses:** Textbooks are sort of like big cards. So you can make really big cardhouses. Since most people won't have enough books to make a really kickass cardhouse, get your entire class involved. You know you have enough books when you are counting the books by the ton.
5. **Hammer:** Textbooks can bang things just like a hammer. They may even weigh many carats more.
6. **Screwdriver:** To put a screw in the wall, line it up where you want it and bash away. Works better if textbook exceeds 12 Troy ounces.
7. **Lullabies:** The best way to fall asleep at night is to attempt to read a textbook. Or perhaps have someone bash you over the head with a textbook.

Dave Nicholson

# MAKE THE FIRST MOVE

A few days back, I was attending an online MathSoc panel for first years (I'm not exactly a first year but hey, classes were over and I was more than a little bored). One of the panelists mentioned a really, really good suggestion that I thought I'd forward: a suggestion to reach out and make the first move to set stuff up.

What exactly is this 'stuff' I'm recommending you set up? A chat, playing some games together, studying together, or asking advice from an upper-year, among many other things. Just anything you want to do with other people.

In theory, it's as simple as sending a message asking if someone wants to do  $x$ . In practice, reaching out can be scary. For myself, it stems from a fear of being turned down. When someone declines, a part of my mind pipes up and starts dropping questions: am I not fun enough to want to play board games with? Not interesting enough to chat with? It's not really a rational response. These are my insecurities. Perhaps you have some of your own.

But as cliché as it sounds, what's the worst that can happen? Will whoever you ask hate you? Nope. I think most people, even if they don't want to hang out this time, are flattered if someone asks them to. Ask yourself: if someone wanted to hang out with you, how would you feel? Probably not too shabby. That's how they'll feel too when you make the first move.

I think it's extra scary and also extra important to make stuff happen online. Doing stuff together is a big part of making friends in university—my closest friends are those I spent a truckload of time with in residence during first year. Even with campus shuttered for now, reaching out online is still a way to meet people and make friends. Go to some clubs or events, find some people who seem kind, interesting, fun, or whatever you like in a friend, introduce yourself, and ask to hang out!

Setting stuff up online has its own flavour of scariness. I miss facial expressions, or even vocal cues. When someone replies with a one-line “sure” to your invitation, is that a barely-contained expression of explosive excitement? Or closer to a timid transmittance of trepidation? Back in the day, you could sort of tell how a person felt about something if you asked them in person. Now, it's a little closer to guesswork. Ultimately, time will tell. You'll find some people who are really tough to set things up with and don't seem all that engaged, and other people who will more consistently make time for you and want to hang out with you. The latter may well make good friends.

It's an oddly simple piece of advice. “Go reach out” is all it really boils down to. I know if you're like me, it can be tough. If you're finding not a lot of people are reaching out to you, maybe they find it tough too. But so, so much can come from making the first move: friendships, opportunities, experiences, knowledge. It all has to start with someone, and sometimes, if

no-one else is stepping up, that someone will have to be you. It's a practice, or perhaps even a skill, that will serve you very, very well.

I was considering titling this article “Don't be Afraid to Make the First Move.” I dropped that title because it's okay to be afraid. What's more important is being brave, even if you are afraid.

So I hereby give you permission to *be brave and make that first move*. Go on! Your future friends are waiting with great anticipation for you to reach out.

CC

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## YOUR GUIDE TO THE MATH C&D

The Math Coffee and Donut Shop (or Math C&D/CnD, for short) is a tiny little shop on the third floor of Mathematics and Computer (MC) building (it's the big old grey building that you'll learn to love). Despite its relatively small appearance, the C&D is actually a million-dollar organization run by MathSoc! The C&D sells some of the cheapest food on campus, including coffee & donuts (duh), bagels, muffins, and other assorted baked goods. There's also a wide variety of pre-packaged sandwiches and meals (veggie and halal options are available!), sushi, as well as a rotating selection of soups and hot food. A small snippet of the hot food available:

- Mac & Cheese on Mondays
- Chicken + Vegetable Stew on Wednesday
- Chili on Friday

There's also garlic breadsticks on Friday (that sell out extremely quickly — *especially* when I'm on campus)!

You'll also hear people referring to the seating area connected to the Coffee and Donut Shop as the C&D — there are microwaves available to heat up your food, as well as plenty of seating (complete with power outlets) so you'll be able to eat and study at the same time! It's also a popular place to meet with friends to work or study together. There's board games nights hosted by MathSoc every Thursday night as well! [Editor's note: Games night will probably be held every Thursday on Discord this term instead. Here's a link: <https://discord.gg/fWewgPV>]

The C&D doesn't accept meal plan dollars (or any payment by Watcard) — but they do accept cash, debit and credit!

Hope to see all of you around at the C&D!

Axel

# A FIRST YEAR MATH STUDENT'S GUIDE TO WATERLOO SHORT FORMS

**ActSci** - Actuarial Science. A major you can choose within the math faculty. Pairs nicely with statistics, ambition, or a love for ca\$h money.

**C&D (CnD)** - Coffee & Donut (shop). The Math C&D is located on MC's third floor, and sells cheap food and drinks. Other faculties have them too, but who cares? (Rumour has it that the Science C&D has the cheapest stuff, but you didn't hear it from me.)

**CEE** - Co-operative and Experiential Education. The name you'll see in the From field of a lot of your emails if you're in co-op.

**CFM** - Computing and Financial Management. A program that combines both Computer Science and Finance. This program is your ticket to fitting in with both fancy finance people and nerdy computer science people. And possibly your ticket to an identity crisis if you read too much into that.

**CLV** - Columbia Lake Village. A townhouse-style residence that's super far away from everything you care about. On the bright side, old people like grad students live here, so maybe you can learn from their wisdom or something.

**CMH** - Claudette Millar Hall. The newest student residence on campus and the only traditional - style residence with AC. Truly the place to be if you're living in residence in the spring term.

**C(&)O** - Combinatorics and Optimization. A program within the Math faculty. It's probably the answer if you've ever asked yourself questions like "Which major should I choose in order to maximize pleasure, knowledge, and future earnings using at most a specified amount of effort and hours of my time?"

**CS** - Computer Science. CS students are the people who are qualified for all the co-op jobs you wish you were qualified for. Strangely, they also seem to be the majority of people you meet during Math Orientation. *[Editor's note: If there were a Math Orientation this year, this would be even truer. \*obligatory 225% joke here\*]*

**DC** - William G. Davis Computer Research Centre (Davis Centre). A couple lecture halls, some CS prof offices, food, and most importantly, the DC library. It feels almost as much like home as MC. Easily one of the greatest places to study among other math students.

**DD** - Double Degree. A program that allows students to get a BBA from Laurier while simultaneously getting a BMath or BCS from Waterloo.

**DP** - Dana Porter (library). This is more of an arts library but it's still pretty cool for a break from the usual study spaces every now and then. Going here may make you feel like you're

cheating on DC, but it can offer you tenth floor views, which DC just can't compete with. Sorry, DC.

**FARM** - Financial Analysis and Risk Management. A program within the Math faculty. Not like the kind with cows and chickens and tractors and stuff.

**GRT** - Grand River Transit. The KW region's transit system. GRT is your new best friend, unless of course, you have a real friend who has a car. If so, congratulations on winning at university life already.

**KW** - Kitchener-Waterloo. They're like the conjoined twin cities of Ontario.

**LinAlg** - Linear Algebra. A class Math students have to take in first year, and maybe again later, depending on their program.

**M3** - Mathematics 3. Screw standard naming/numbering conventions, right? After Math & Computer and Davis Centre, the only logical name for the next math building is Mathematics 3. Stay tuned for Mathematics D and then Mathematics Cinco after that.

**MathSoc** - Mathematics Society. Want to know more? Stop by MC 3038 to check them out ;)

**MC** - Mathematics and Computer Building. Also known as your new home. Love it, respect it, get used to it. Expect to

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UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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have a lot of classes here, and expect to spend a lot of hours in the tutorial centre (MC 3022) slaving over assignments.

**MKV** - Mackenzie King Village. A suite-style residence located between REV and V1.

**PAC** - Physical Activities Complex. This is where you will have some of the most unpleasant experiences of your university careers. Like writing exams. Or even worse: exercising.

**QNC** - (Mike and Ophelia Lazaridis) Quantum-Nano Centre. This is actually an engineering building but it forms a triangle with MC and the SLC so it's sort of in math territory. Also, the tables by the windows looking out on the Peter Russell Rock Garden are some pretty rad places to study (Or at least as rad as study spaces can be).

**REV** - Ron Eydt Village. A popular dorm-style first-year residence. Unofficially known as the party residence or social residence. But then again, this is Waterloo, so even REV is pretty tame compared to Western, or Laurier, or other schools that actually party.

**SLC** - Student Life Centre. Centre of the University Universe. Home to great food (including Tim Hortons!), clubs spaces, study spaces, the turnkey desk, and the only place to get food on campus <sup>24/7</sup>: International News. Also conveniently located

near Math, Science, and AHS (sucks to be Arts, Engineering or Environment).

**Softies** - Software Engineers. Weird hybrid creatures that belong to both Engineering and Math. Kind of confusing, but pretty harmless. They are our friends.

**UWP** - UW Place. A suite-style residence located on University Ave. Not exactly on campus, which is kind of inconvenient, but it's across from the plaza, which makes up for the distance. (Plaza = Burger King, convenience stores, all the Asian food you could ever want, and other such wonders).

**V1** - Village 1. Another dorm style first year residence. Less social than REV, but they get single rooms and a better cafeteria, so who even cares? *[Editor's note: All students in residence will have a single room this term, so I guess the first point doesn't matter.]*

**WLU** - Wilfrid Laurier University. That neighbour down the street who we have a love/hate relationship with.

There are a lot more, but these are a few of the important ones. If you hear any others that you're curious about, Google is your friend :) Welcome to Math, and good luck!

TheUndecided

## MY FIRST YEAR EXPERIENCE: CHAPTER 5.

### mathNEWS

I really enjoyed some of the **mathNEWS** articles last fall, so this term I decided I would start writing. Plus I knew terrified so I felt I had to go. At the disorg, terrified was late, which was very disappointing.

At the first production night, I didn't know many of the other journalists. When it was pizza time, I decided to sit next to someone I barely knew at a group of people who I didn't know. It was then that I met Janice.

"Hello, what's your name?"

"I'm Janice, and you?"

"I'm George."

"ARE YOU THE GEORGE KENNEBUNKPORT WHO ANSWERS EVERYONE'S QUESTIONS ON PIAZZA?"

"Yes, I am."

"WOW! I FEEL LIKE I'M IN THE PRESENCE OF A CELEBRITY RIGHT NOW!"

Janice is one of the funniest journalists who writes for **mathNEWS** and has plenty of artistic talent. It then turned out that she was in my CS tutorial, and after that we quickly

became close friends. We gave each other advice on articles and bitched about our CS assignments with each other. It's very important to have someone to bitch about assignments with.

Later in the term I met some more people at production nights. The people are **mathNEWS** are so friendly! And the pizza is so good. *[Editor's note: Remember when we used to give out PIZZA? Weren't those the days...]*

Writing for **mathNEWS** was a wonderful experience. I was harassed gently talked to by terrified for pushing the edge of what **mathNEWS** can legally publish, which was fun.

I was very sad when the end of term event was scheduled for after I have to leave residence, but that's partially my fault for not checking what dates I was voting for and just checking off every Friday night or weekend box. Oops.

The moral of the story? Check what you're voting for. Also, you should come write for **mathNEWS**. You can make wonderful friends and eat wonderful pizza. *[Editor's note: At least the first half of that sentence is still true.]*

George Kennebunkport

# ARRIVING AT WATERLOO, IN A GENTLER TIME

**SUNDAY, SEPTEMBER 1, 2019 — THE DAY BEFORE ORIENTATION.**

Camien thought that the plane's descent felt much, much longer than was reasonable: from the time the announcement had been made, he felt like an hour or two had passed. He had a window seat, so he could see outside: patches of patchwork fields dancing in and out of sight between thick, heavy clouds. Not too different from the quilted prairies of Saskatchewan. A few mellifluous words from the flight attendant over the intercom informed Camien that the weather in Waterloo was, in fact, cloudy at twenty-two degrees Celsius, and that local time was 4:26 in the afternoon. Camien had this information already from his parents, who had excitedly researched every condition they could find in Waterloo that morning.

The flight had felt like the longest flight he had ever taken. From hugging his parents good-bye in front of the Saskatoon airport security, to waiting at the slightly busy flight gate, to taking his window seat and watching quietly as the world dropped from beneath him, every action seemed prolonged by the thick feeling of being truly away and independent for the first time in his life. The realization that he was far away, alone, and responsible entirely for himself seemed to take a life of its own. No-one would be there to tell him where to go or what to do anymore. His path was all his to decide, and *it felt terrifying.*

The plane continued its winding descent. Into the thick, low clouds, and out the other side, thin droplets of rain skittering across the small window as the airport came into view. Camien had joked that the Region of Waterloo International Airport was a little pretentious for calling itself an international airport when it only had flights to three or four destinations, and he felt a little vindicated as the plane finally made a juddering landing atop the tarmac and he got a good look at the side of the airport.

A single small building composed the entire terminal. No such luxuries as a covered boarding tunnel; after the plane taxied to a stop, Camien carefully navigated stairs wet with rain off the plane, lugging a suitcase and backpack that were probably stuffed a few pounds heavier than what the airline's regulations allowed. Around him, other passengers complained delightedly about the weather in Waterloo. Most looked young and bright-eyed—probably students like him. Several vest-wearing airfield workers ushered him across the airfield and into the terminal.

The terminal did turn out to be as small as it had looked from the outside. A single hall held Arrivals, Departures, a cafe, the baggage concourse, and the crowd of passengers who had just disembarked with Camien. He had spotted a few other people wearing various University of Waterloo-branded clothing, and felt a certain sense of quiet camaraderie knowing they were going to the same place he was.

He hadn't said hello to any of them yet. Saying hello seemed like a lot of work for a person like him, and he decided to just quietly collect his checked luggage suitcase and think about saying hello to someone once he actually made it to the university. Most people around him seemed to already be in groups of their own, talking energetically, and Camien didn't want to make them feel like he was barging into their conversation. Or so he gave himself the excuse.



Outside the airport, taxis were pretending to be an assembly line, rolling in, gobbling up chattering groups of probably-students and whisking them off to wherever they were willed. Camien dragged his collection of bags and suitcases to the sidewalk, and had just started trying to hail a taxi when he was ambushed by a voice behind him.

“Hey! Are you going to the University of Waterloo?”

Camien turned in surprise, knocking over the larger of his suitcases which made a wince-worthy scraping sound of fabric against sidewalk. The person who had spoken, he saw, was a short boy covered head-to-toe in blue-coloured University of Waterloo paraphernalia. Big round glasses were partly obscured by scruffy brown bangs.

“Aww, sorry! Let me get that suitcase for you.” The boy leapt forward, yanked the suitcase back up and made a show of brushing dirt off.

“Thanks.” Camien said, blinking. “Yup. I'm going to Waterloo.”

“Awesome! Wanna share a taxi? I'm going there too and I heard sharing taxis are good since we can split the money, how's that sound to you?”

“Sure.” Camien looked around the boy, and noted that he had only a small knapsack strapped to his back, with no suitcases or other bags on the ground. “Do you have some bags to pick up before we go?”

“Nope! I like to travel light! I've got everything I need in my bag!” He gestured at the knapsack and Camien noted, incredulously, that it was probably half the size of the smallest bag he had.

“What do you keep in there?”

“Water bottle, clothes, toothbrush—hey, hey, taxi! Over here! Over here!” The boy jumped and waved at a taxi drawing even with the sidewalk, and plodded up to the passenger window, tapping twice. “Can you take us to Waterloo?”

*Waterloo sure draws some unique characters,* Camien thought.



The taxi driver was a jovial, middle-aged fellow who introduced himself as Glen, and lobbed questions with delight at the two students throughout the whole ride.

“So, I'm guessing you're first-year students new to Waterloo?” Glen asked as they pulled out of the airport.

“Yes.” Camien replied, and was about to elaborate when the boy interrupted.

“Yup! Same here! I'm going to the University of Waterloo, first year Chemistry Co-op. My name's Blas, by the way, nice to meet you Glen!”

“Ha! Wonderful! Lots of students always show up right around September looking for taxis from the airport,” Glen jumped in to reply, then tilted his head to indicate he was addressing Camien. “And how about you, young man?”

“I'm in Honours Math, and my name's Camien, I guess.”

“You guess! Ha! Good one. And I guess the sky's blue. Good to meet you, Camien.” Glen responded cheerfully.

The rest of the taxi ride panned out similarly. Glen and Blas seemed to be on the same frequency, slinging boisterous banter back and forth with great enthusiasm. Camien sat back, amazed at the speed that the two had struck up conversation. Sure, he felt like he could barely get a word in, but he still enjoyed the boisterous atmosphere of the trip, and laughed along at jokes.

When Glen turned onto University Avenue, he lifted a hand and pointed far in front of the car.

“We're almost there! Right up over this hill, you'll be able to see the UW library as we come over the hill. It's quite iconic. My daughter loved studying there when she went to UW.”

Camien and Blas eyed the horizon eagerly. Glen paused at a red traffic light, and when the car rolled forward after the light changed colour, Camien could see a symmetrical, solid shape rise from the horizon as the car crested the hill. It was tall and striking, a grey stone cube of concrete tiled with a regular grid of vertical slits of windows.

He'd seen it in pictures before, but now, watching it hang just above the horizon like an alien monolith, he felt a creeping sense of awe. Perhaps it was the long flight, or the new environment, but awe came very easily to him just then. *Dana Porter.*

The car continued to campus, then around Ring Road, and Glen pointed out the various buildings like a tour guide. *Hagey Hall. UW Place. SLC.* As an out-of-province student, Camien had never seen the campus with his own eyes before. To think that this would be where he would spend his next few years. He took it all in, slowly. Blas didn't seem to care too much about the buildings, and continued to chat. But Camien was almost reverent.



Glen dropped the two of them off in front of the brick buildings of Village 1. They split the fare, and Camien unloaded his collection of luggage.

“Good luck, kids!” Glen shouted as he drove off.

Blas and Camien were left in front of Village 1, which was bustling with other students moving in, parents saying good-bye, and bags of belongings everywhere.

Blas helped Camien manoeuvre his suitcases to the V1 main building, helpfully marked by large yellow signs and arrows, and waited in line to pick up their keys.

While they were shuffling forward, Blas struck up some conversation with the other students next to them in line, asking them about their programs, hometowns, which building they were living in, and brightly interjecting with his own responses. Camien envied the ease with which Blas dipped into a conversation with anyone around him. It was a skill he didn't possess. At least, not yet.

“How about you, Camien? Why'd you choose Waterloo? And Math?” Blas had been going around a circle of newfound acquaintances and asking them all the question.

“I wanted out of Saskatoon, I guess.” Camien replied. “I've lived there my whole life, and while it was nice, I didn't want to go to university there too. I thought it would be better to go somewhere different, experience something new. And as for Math, I liked it a lot in school, so I figured, why not?”

They made it to the front desk to pick up their room keys soon after, and did just that.

“Hey! It was great meeting you!” Blas said to Camien. “We should hang out some time! Here's my phone number...” Camien took Blas' recitation of the number down. “Got it? Okay, then, bye! I'll see you around!” Blas hopped off, knapsack bouncing on his back. Camien shook his head and smiled. He still didn't have any idea how Blas would survive on just whatever was stored in that one small bag.

Camien collected his possessions, and checked a map for his building. East 4, it was. Room 303. As he slowly hauled his bags to the building, he saw other students moving in with far, far more things than he: mini-fridges, televisions, desktop computers, desks, even giant stuffed animals. Camien couldn't imagine how much it would cost to move that much stuff from Saskatchewan. Now that he thought about it, he figured that those people were probably wondering how *he* could survive on just two suitcases and a backpack.



Camien made it to East 4. He could tell it was East 4 as the side of the building was labelled such. He stepped inside, and was at once greeted by a woman in a blue vest, holding a large,

hand-drawn poster reading: “East 4, Jedi Temple, Coruscant”, with a stylized crest Camien vaguely recognized.

“Hi, hi, hi! Are you living in East 4?” A quick nod by Camien, and she continued: “Then hello there, young Padawan! I am Master Vanessa, your Don!” She winced at the look of confusion which had overtaken Camien's face, and tried again. “Sorry, I decided to go for a Star Wars themed building; each of us Dons—we're upper year students also living in residence who're here to help you out—we got to choose a theme! Anyways, if you have any questions, or need any help, let me know! I'm on the first floor in room 101.”

A few minutes later, after a successful endeavour (with Vanessa's help) to move his suitcases up six flights of stairs to the third floor and down the hallway to room 303.

“Here's your room!” Vanessa pointed to the label on the door, which consisted of the same crest—which Vanessa had explained to Camien was the Jedi Order symbol—along with his name, and beneath it, 'Saskatoon', his hometown. “I'll be downstairs if you need anything.”

Camien gingerly unlocked the door with his key, and peeked inside his new room. It was lightly furnished, with a small wooden bed, chair, desk, shelf and closets. He started unpacking his things.

Camien's parents had texted him, wishing him well and checking he'd arrived safely. Camien thanked them and said that yes, he was fine. There wasn't much to unpack, as two suitcases couldn't actually hold all that much. He finished in about half an hour, then sat down on his bed, feeling a little tired.

Just this morning, he'd woken up in his bedroom in his hometown, and now, he sat on a bed he'd never slept in, in a building he'd never set foot in, in a city he'd never visited before. It was quiet, there, with his door closed and all alone in his room, and he thought about taking a nap. Light still spilled brightly through the room's window, though, and Camien decided a nap could wait.

He stepped out of his room, and noticed that the door to the room across from his was mostly open. Someone was inside, and the sound of objects being moved about meandered into the hallway where Camien stood. It was the first open door Camien had seen in the building so far, and he mused that leaving a door open would be a good way to meet new people in residence.

Camien was about to continue his way out of the building when he was suddenly struck by the thought of Blas, and the easygoing way Blas introduced himself to everyone else. *If Blas were here*, thought Camien, *he'd most certainly say hello to whoever was inside that door*. The idea that he could do that too froze him for a few seconds, as he fought to muster the courage. In the end, he drew on Blas' actions, and pulled himself forward to knock on the door and peek inside.

“Hi there, I'm Camien. I'm in the room just across the hallway from you. How are you doing?”

Inside, a very tall dark-haired guy was organizing a collection of hourglasses on a shelf, and had turned slowly about in response to Camien's words.

“I'm doing good, thanks.” He replied with a smile. “Glad to see a neighbour's face. I'm Joseph, and I suppose I'm in the room just across the hallway from yours.” The smile acquired a hint of playful sardonicism.



As Camien learned as they chatted, Joseph was an electrical engineering student from Scarborough with a penchant for hourglasses who'd arrived in residence a little after Camien had.

They'd gone to dinner, exploring the varicoloured foods of the cafeteria, then walked around the main building a little to see what there was. It got dark after that, and Joseph and Camien returned to their rooms and said good night.

Camien felt proud of himself, as he laid there in the dark on the unfamiliar bedding. He'd made it to Waterloo, and made the acquaintance of some very interesting people. He resolved to himself to be a little more like Blas—unabashedly unafraid to converse with anyone and everyone, anywhere and everywhere. Camien didn't think he ever wanted to be quite as... *enthusiastic* as Blas, but being a little more outgoing would serve him well.

Orientation was tomorrow, thought Camien. The start of his university life. He was nervous. He was excited. He had no idea what awaited him. But as he drifted off to sleep with the air caressing him through an open window, cool and clear after the rain, and the sounds of vines gently swishing and swaying on the brick walls outside, he somehow knew it would be okay.

CC

**The mathNEWS Twitter:  
in case this issue  
doesn't fill your weekly  
nonsense quota.**

THE SENTIENT BEING THAT IS  
@UWmathNEWS ON TWITTER

# mathNEWS RECRUITMENT PROPAGANDA AHEAD! BE WARNED!

**KEEP READING ONLY IF YOU DARE!**

Fledgling froshies! As September draws near at time of this writing, one thing is true—a new school year is about to start, and with it an influx of fresh blood faces to the Faculty of Mathematics. That includes you! The fact that you're reading this specially-prepared orientation issue of **mathNEWS** already makes me happier than you could possibly know. Why, you ask? Because I love **mathNEWS**, and I love it when other people love **mathNEWS**.

Before we move on, let's get one thing straight. I'm an old, senile, and jaded crock halfway through the gong show that is my undergraduate degree. I may be ancient by your standards, but I'm not the kind of reclusive grandpa that yells at the kids to get off his lawn. Whenever this time of year hits, I find myself filling the role of **mathNEWS** outreach worker, preacher, evangelizer. Not because the ~~despot~~ wonderful editors of this paper force me to [*Editor's note: I thought we already discussed this last issue.*], but because in the years I've been here at UW, the time I've spent with **mathNEWS** has been one of the highlights.

So what is **mathNEWS**? According to Wikipedia, **mathNEWS** is a “free-form publication,” basically meaning any shit goes. Usually funny shit, but not always. Despite having “news” in the name, and often being referenced as the Math Faculty's student newspaper, **mathNEWS** has very little *actual* news, and maybe less math than you'd expect (there is still some though, since a lot of the writers here are nerds, and I say that affectionately). I encourage you to check out past issues on [mathnews.uwaterloo.ca](http://mathnews.uwaterloo.ca) to get a sense of the range of content that this paper publishes, because there's no way I can describe it all in words alone.

Maybe after perusing this orientation issue and some backissues online, you'll find that you really like reading **mathNEWS**. That's great! You can keep up with new issues this term as they get uploaded to the aforementioned website every other Friday. But why stop there? Because I promise you—if you get any enjoyment at all from reading **mathNEWS**, you'll have six times as much fun writing for it. There's a low barrier to entry and no commitment, so even if you join one production night and hate it, it's no biggie (not that that's going to happen, but I don't wanna be liable for anything, y'know). Think about it: you get to write about whatever you want and have it immortalized in **mathNEWS** forever (did you know physical copies of every issue of **mathNEWS** are housed at the Library and Archives Canada building in Ottawa?), plus make up a slick pseudonym for yourself, answer **mastHEAD** questions with your wittiest one-liners, and ask professors all your burning questions for the **mathASKS** column. It's pretty fun.

Normally I'd make a point right now about the free pizza at production nights, if it weren't for the fact that the Fall term is online and production nights will be held remotely (so no

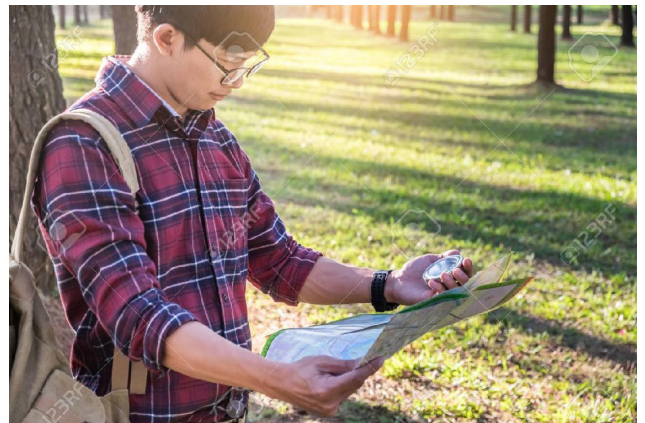
pizza). Something to look forward to if the Winter 2021 term is in-person though. We get the gourmet shit. [*Editor's note: Ain't that right.*]

That's all I have to say for now. I'm pretty sure an editor will have gone over the technicalities of attending production nights and contributing to **mathNEWS** somewhere in this issue [*Editor's note: It's all on the next page, BTW.*]. My work here is done. To summarize: read **mathNEWS!** Write for **mathNEWS!** Sacrifice your soul to **mathNEWS!**

I hope to see your lovely mug at the next production night.  
Yours truly,

Finchey

## ME HAVING AN ORIENTATION ISSUE OR SOMETHING IDK I'VE NEVER HAD AN ORIENTATION ISSUE BEFORE



boldblazer

I put this here just so I could fill this column.

A TIRED **mathNEWS** EDITOR

# lookAHEAD

SUN SEPT 6

MON SEPT 7

TUE SEPT 8

WED SEPT 9

THU SEPT 10

FRI SEPT 11

SAT SEPT 12

Labour Day

Classes begin 📅

Course reserves lifted

Time to get working on your very first assignments! 📖

SUN SEPT 13

MON SEPT 14

TUE SEPT 15

WED SEPT 16

THU SEPT 17

FRI SEPT 18

SAT SEPT 19

Welcome Week begins (<https://wusa.ca/get-involved/welcome-week>)

Five more days until the first production night of the term...

Welcome Week ends

Talk Like a Pirate Day

## SO YOU WANT TO GET INVOLVED WITH mathNEWS?

**mathNEWS** is like an old friend. It shows up, pretty regularly, every other Friday; makes you laugh, cry, and scratch your head trying to solve puzzles; and then says, “See you in two weeks!”

Now, **mathNEWS** doesn't just appear magically; it is put together by a very tight-knit group of writers, artists, proofreaders and glorious editors. All of us here at **mathNEWS** are always looking for new writers, proofreaders, artists, puzzle-writers, and general whathave- yous.

Usually we have what is known as a disorganizational meeting at the beginning of each term to introduce **mathNEWS**'s workings for those who are interested in becoming part of this ~~hot mess~~ well-oiled machine. But, as I'm sure you're aware, this term is a special one, so I'm afraid there won't be a disorganizational meeting this time around. That's nothing to fear though — in the following few paragraphs, I'll tell you just exactly how you can keep in touch with us and get involved with **mathNEWS** this term!

The first thing you want to do is sign up for our mailing list (<https://forms.gle/P42C4CdrpC7R98tU7>). No spam: just fortnightly production night reminders and special updates (and possibly goodies) from the editors.

We'll be holding remote production nights as video-conferences held on our Discord server, of which you will receive an invite link to if you are on our mailing list.

Our regular writers write and submit articles via our own content management system, which requires an account on our site, [mathnews.uwaterloo.ca](https://mathnews.uwaterloo.ca). Only an editor can create a new account. To get an account set up before a production night begins, ask around for help from an editor on the Discord, or just DM one of them directly. You can also email us to ask us to set up an account for you. However, you may also send us submissions directly via email, and it is not necessary to attend a production night in order to submit something for that week's issue. A finalized

submission should be sent in the Tuesday after a production night at 9 a.m. ET in order to guarantee its consideration in the upcoming issue.

If you're interested in submitting something to **mathNEWS** one day (yay!), you can check out [The mathNEWS Style/Submission Guide](https://mathnews.uwaterloo.ca/?p=12973) by swindLED in V139i2 ([mathnews.uwaterloo.ca/?p=12973](https://mathnews.uwaterloo.ca/?p=12973)) for some more helpful pointers.

If you're on social media, following us on our Twitter and Instagram (we're @uwmathnews on both) is another great way to keep up with production nights and issue releases, and also get your **mathNEWS** fix in between issues.

That's the end of my piece. Thank you for reading; we hope to see you at our first production night on the 21<sup>st</sup>. Have a great term!

clarified