



GREETINGS, MATHIES!

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 time, we've replaced the Q&A with a table of contents—this issue contains a ton of useful advice from **mathNEWS** writers and editors that you'll definitely want to come back to later in the term.

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 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, surrealist comedy, and some arguably tasteless jokes that will definitely get me a stern talking-to. Surprisingly enough, we've even got a couple of articles of actually interesting content! 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 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. We hope you enjoy this issue, and don't just shred it for your hamster's bedding. Best of luck with your new university career, and try to resist the urge to read **mathNEWS** instead of going to class. I know it's tempting.

Have a great orientation week!

evaluatED
Editor, mathNEWS

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fig.1 normal bunny

Welcome to Waterloo Math!

EVAN GIRARDIN, mathNEWS EDITOR FOR FALL 2023
ALONG WITH DANIEL MATLIN, AWAB QURESHI, NAMAN SOOD, AND ISABELA SOUZA

O-TEAM SEZ

Hello mathies!

Let us start off by thanking our wonderful Math Orientation Leaders. We couldn't do any of this without you. Thank you for all of the blood, sweat, and tears you've shed to help us make Math O-Week 2023 so awesome. We'd also like to thank Central Orientation for all of the support and resources they've given us.

We hope that you enjoy the activities we and others are running this week, and that you learn all about and become familiar with campus as you do so. Most importantly, we hope that through O-Week you can start building up your university social circle, and find connections that will stay with you the rest of your life (as we have!).

We wish you the best of luck with your first term, and hope that you love it here as much as we do.

Cameron, Avery, Krishna, and Ega
The 2023 Math O-Team

MATH ENDOWMENT FUND SEZ

Hey mathies! Welcome to Waterloo! We hope you will have an enriching and enjoyable orientation and first year.

WHAT DOES MEF DO?

MEF is a \$10 million fund working to enrich the experiences of Math undergrads at Waterloo. Throughout your time at Waterloo, you may notice our logo anywhere from hackathons, to club events, to design teams. 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.). PDF is for individual initiatives; if you'd like to attend an event, publish a paper, or take extra-curricular courses online, PDF can reimburse part or all of the cost.

HOW TO GET INVOLVED

The easiest and best way to get involved is to join 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 different extracurricular opportunities for Math undergrads.

After Funding 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 the BoD, there is an opportunity to be selected as the Executive Director, where you oversee MEF's operations for a term.

Please visit MEF's website (mef.uwaterloo.ca) to view details on funding and how to get involved. Feel free to email us if you have any questions or concerns (mefcom@uwaterloo.ca)!

Math Endowment Fund

A CHALLENGE

As you may know, the University of Waterloo main campus has six important connected non-residence building groups:

- The School of Optometry
- Dana Porter Library
- Psychology, Anthropology, and Sociology
- Health
- Arts
- *Everything else*

Thanks to the network of bridges and tunnels that link the campus together, from a certain point of view, these are the only buildings you'll ever need to travel to.

In September, it's easy enough to learn the outdoor paths that link our campus together, and even easier to fool yourself into thinking that's all you need to know. But when winter comes, with exams, freezing temperatures, and frozen sidewalks, you'll wish you had learned the tunnels long ago.

There's only one way to learn the tunnels: try, get lost, try again, get better.

Here's our challenge: find a path from PAS,¹ to E6,² to PAC,³ where your total time spent outdoors is less than *twelve seconds*. It can be done.

Godspeed.

molasses

1. The Psychology, Anthropology, and Sociology building (PAS) is on the southwest corner of campus, near Conrad Grebel and EV3. It is the one that arguably most resembles a bomb shelter.
2. Engineering 6 (E6) is the black building behind the University Plaza (the place that has Farah's and Lazeez).
3. The Physical Activities Complex (PAC) is on the northwest corner of campus, attached to the Student Life Centre.



MATHSOC SEZ

Hello first year mathies! Congratulations on starting your university journey, and welcome to the Faculty of Mathematics!

WHAT IS MATHSOC?

The Mathematics Society (or MathSoc, for short) is the student government for the undergraduate math student body at the University of Waterloo. We exist to enrich your student experience through our events, services, clubs, and advocacy. More on that in a bit.

As an undergraduate mathematics student at the University of Waterloo, you are automatically a MathSoc member! This grants you access to all that we provide.

This includes:

- Academic advocacy to faculty and administration!
- Cheap printing and photocopying!
- Board game rentals from the largest collection on campus!
- Free candy and other office snacks!
- A textbook library and an exam bank!
- Lockers to store your stuff!
- Being the place to buy faculty-approved calculators for the best prices on campus!
- Cool Math novelties, like old pink ties, sweatpants, math socks, and shirts to show off your Math spirit! We even have a shirt that's banned from exams.
- A whole host of events, like Pi Day (free pie, pi recitation contest, and pie-ing MathSoc execs!), Board Game Nights, Party with Profs, résumé critiques, exam review sessions, free food from Welcome Week, and more!

HOW CAN I GET INVOLVED?

As a volunteer-run organization, MathSoc has plenty of volunteer opportunities available! We are all volunteers here.

If you're interested in student governance and advocacy, you can join our Council or Board of Directors. This is like your high school student council, but for Math undergraduates. Council has representatives from all Math programs. There are usually 4–5 first year representative seats on Council, so look out for the election at the beginning of the term! This is a great way to make your voice heard.

Aside from that, you can volunteer to help maintain our website, organize events, advertise events, manage our office, maintain our finances, and much more! Check out <https://mathsoc.uwaterloo.ca/volunteer-at-mathsoc/> for details.

Getting involved in any part of MathSoc is a great way to meet new people and participate in student life!

PREZ SEZ

Hi, we're Grace Feng and Damian Mustatea, the MathSoc presidents for the Spring '23 and Fall '23 terms, respectively.

We hope you're as excited as we are for this upcoming term. MathSoc has a whole host of plans in store for you to look forward to, all to improve your student life here at UW Math. Follow us on Instagram and check out the posters around the Math buildings to stay updated on what we're doing for you!

Starting your university journey can be scary. The courses are hard, things are different than what you're used to, and you're living away from home. Through all this, know that we're here to help you in any way possible. Reach out to us for anything.

Also know that we have a section on our website dedicated to resources for Math students, including co-op advice, tips for picking courses, links to other campus resources, mental wellness resources, and more. You can also find information in our office or on our posting boards.

Getting involved, either through volunteering or by attending our events, is a great way to put yourself out there and make long-lasting friendships. It's also a great way to meet upper years and learn from them—you're not alone here.

We hope to see you soon, and best of luck with your first term!

MATHSOC(IAL)

In-person: MC 3035 and MC 3038

Email: info@mathsoc.uwaterloo.ca

Instagram: @uwmathsoc

Grace Feng (President, Spring 2023)
Damian Mustatea (President, Fall 2023)



WELCOME FROM MATHSOC CARTOONS!

Hello incoming mathies, and welcome to the University of Waterloo! We are MathSoc Cartoons, a project run under MathSoc's Vice President Academic with the goal of creating engaging cartoons that simplify difficult math and computer science concepts for students like you! We print our comics in **mathNEWS** (the newspaper you're reading right now) and post them to our socials, as well as to MathSoc's socials. As you'll see later on, our comics are sometimes posted to various Piazza/LEARN forums too.

BUT WHY?

Often, we find that students understand difficult concepts better when they are presented in a visually appealing, engaging, and relatable way—cartoons are the perfect medium for this. Check out our recurring characters in the attached image! If you want to get a taste of what we do, here are some examples of past comics for topics you may learn during your first term here:

- MATH 135: Chinese Remainder Theorem: <https://mathsoc.uwaterloo.ca/math135-comics/#chinese-remainder-theorem>
- MATH 137: Mean Value Theorem: <https://mathsoc.uwaterloo.ca/math137-comics/#mean-value-theorem>
- CS 135: Abstract List Functions: <https://mathsoc.uwaterloo.ca/cs135-comics/#abstract-list-functions>

You can find a full list of our comics at mathsoc.uwaterloo.ca/comics-archive.

I'M INTERESTED, HOW CAN I GET INVOLVED?

The easiest way to get involved is to join as a reviewer, where you would be filling out surveys to provide feedback on the rough sketches and final works produced by our writers and artists. You can learn more and sign up here: bit.ly/cartoons-reviewer-join. (P.S., we hold gift card draws for our reviewers!)

Additionally, keep an eye out for producer, writer, and artist applications, which usually open around the last month or two of the term—make sure to follow us on all our social media platforms to get notified when that happens :D

FIND US!

Instagram: <https://www.instagram.com/mathsoccartoons>

Facebook: <https://www.facebook.com/mathsoccartoons>

Webpage: <https://mathsoc.uwaterloo.ca/mathsoc-cartoons-main-page/>

Email: cartoons@mathsoc.uwaterloo.ca

MathSoc Cartoons

MATHSOC CARTOONS PRESENTS...

MATHIEU

MATHIEU'S ENTHUSIASM FOR MATHEMATICS KNOWS NO BOUNDS. INDEED, HE'LL PREACH TO YOU THE JOYS OF DERIVATIVES WHEN ALL YOU'RE WONDERING IS "WHO IS THIS KID AND WHY IS HE ON MY LAWN?"

HE'S A LITTLE ANGEL WHO HAS NEVER DONE ANYTHING WRONG IN HIS LIFE, AND HE CAN PROVE IT WITH, LIKE, **MATH AND STUFF**.



VECTORIA

VECTORIA WILL PLAY ANY VIDEO GAME IN ONE TO $2^{3^2}-1$ DIMENSIONS, WHICH IS TO SAY, ALL THE VIDEO GAMES. IF YOU FIND A VIDEO GAME IN LESS THAN ONE OR MORE THAN $2^{3^2}-1$ DIMENSIONS, PLEASE LET HER KNOW SO SHE CAN PLAY IT.

DESPITE GAMING FOR 711 HOURS A DAY, SHE'S FOCUSED AND ALWAYS MAKES SURE TO MOVE IN THE RIGHT DIRECTION. HER FAVOURITE TOPIC IS LINEAR ALGEBRA.



THEA REM

SIMPLE, ELEGANT, AND BEAUTIFUL... AT LEAST, THAT'S WHAT THEA TRIES TO BE. USUALLY, SHE ENDS UP AS MESSY AND DISORGANIZED AS THAT ONE ASSIGNMENT YOU SUBMITTED WHICH MADE YOUR MARKER CRY.

SHE LOVES HER LITTLE SISTER, CORAL ARI, WHO'S ALWAYS FOLLOWING HER AROUND.



LEMUEL MA

LEM MAY BE SMALL, BUT HE HAS A BIG HEART! OR SO HE CLAIMS. IN REALITY, HE'S A HUGE SHOW-OFF WHO WANTS TO BECOME RICH AND FAMOUS BY BREAKING AS MANY OBSCURE WORLD RECORDS AS POSSIBLE. (WHERE DID HE EVEN GET ALL THOSE DOMINOES?)

HIS FAVOURITE PASTIME IS TRYING TO HELP THEA WHEN SHE DOESN'T ACTUALLY NEED HELP.



STORY & ART BY AVA PUN | CHARACTERS BY AVA PUN & ALYSSA BAKSH

 MATHSOC 

THE 3RD FLOOR OF MC

THE SOCIAL HEART OF THE UWATERLOO MATHEMATICS COMMUNITY

Welcome to the University of Waterloo and to the Math Faculty! You've begun your journey towards an undergraduate math degree along with over a thousand other math students, and you'll probably meet a number of them in your classes and residence life. What a lot of new math students don't realize is that there is a large social community to be a part of, and that there are many benefits to doing so. Let's have a look at some of the ways you can participate in the math community, most of which are located on the 3rd floor of the Math and Computer building, your new home:

MathSoc: The Mathematics Student Society runs many events during the year, and has many opportunities for volunteering and meeting other students. Many of the office workers are upper-year students, and all of them are willing to give you tips and help you feel at home. Some of the ways in which you can volunteer are to help staff the office, organize and run events like the our many Pi Days (we have three of them, one for each term!), and be a student representative on MathSoc Council. You can find the MathSoc office right across from the C&D (MC 3038)!

Program Clubs: Almost every program in the Math Faculty has an associated club, which runs events geared towards their members' general interests and an office where you can meet like-minded students in a social setting. For example, the Pure Math, Applied Math, and Combinatorics and Optimization Club (the programs are small!) runs prof talks and math contests, and the Computer Science Club has Code Parties and co-op resume critiques. Club members tend to take courses together, so there are likely to be students with whom you can work together. Note that you don't have to be in the program to join the club! Watch for the MathSoc Clubs Day early in the first month of classes. Finally, note that a large number of Stats- and ActSci-related clubs are actually located in the Mathematics 3 (M3) building. They're further away, but we still love them!

Orientation: Depending on when you're reading this, you're most likely either currently in or have finished participating in Orientation Week. If you feel so inclined, next year you can switch roles, and be a leader of new students! In a leader role in Math Orientation, you have the opportunity to be a guide and role model for new students, and have a lot of fun along the way, meeting and working with the many other leaders; it's fulfilling and enjoyable to make the week go smoothly, and there are certain things that you only really experience as a leader. Watch for applications online in the winter term! They used to be on the 3rd floor but have recently moved to the 4th floor, but check them out anyway (they're cool)!

Math C&D and Comfy Lounge: The two "main" lounge areas of the MC are the sitting space outside the Math Coffee and Donut shop, and the so-called Comfy Lounge next door. Colloquially called the C&D, the Coffee and Donut shop is a great place to work in small groups with some table space and a power outlet or three, or sit and enjoy chili and a sandwich

at lunch with a friend. The food is reasonably priced, and there is some part-time work available on occasion. There is also a balcony available, with some seating space there. The Comfy is where you can relax for a time, study or read in a nice chair, or participate in a MathSoc General Meeting. It is not for sleeping; that's what your room is for. The chairs are indeed comfortable, though, hence the name. As an aside, in the C&D there are microwaves; this is remarkably useful. A wide variety of students use both of these spaces; you're almost guaranteed to run into someone you know, or someone you wouldn't mind meeting.

That's a basic rundown of what you can find on the 3rd floor of MC; there are also labs and assorted study spaces on the floor. Make sure to spend some time exploring and visiting the offices; the people you meet will almost certainly benefit you in your time here.

Good luck!

Scythe Marshall

HOW NOT TO MAKE THE SAME MISTAKES I DID

A RETROSPECTIVE ENUMERATION

1. Go outside.
2. Make friends with smart people, because then they can help you with assignment problems. In math courses, this is usually not against the rules.
3. If you're taking a class for which you can receive trivial participation marks, don't forget to participate.
4. Join **mathNEWS** on the first production night instead of the second.
5. If you have an exam, and especially if it's an exam for CS 145, make sure you study for it. In particular, make sure you know what's going to be on the exam, because otherwise it's easy to spend valuable time reviewing the wrong material.
6. Don't go to Lazeez. It sucks.
7. If you want to meet people—and chances are that you do—then you should go outside. Specifically, you should go outside and maneuver yourself towards buildings in which events or club meetings are being held, and preferably within the time period that such events or meetings are taking place. This is because it is geometrically impossible to meet people without being in their physical vicinity, a momentous result proven in 2002 by Danish mathematician C. Øm Unsenz.

yalevoilian

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.

More information about the advanced courses is available at the information session on the Tuesday of Orientation Week, if you're reading this before it actually happens, and from the first year advisors and the Pure Math/CS departments. 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. 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 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

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

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.)

CCD—Centre for Career Development, formerly CEE, formerly formerly CECA. 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, part of the UWP complex. 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.

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 have a lot of classes here, and expect to spend a lot of hours in the tutorial centre (MC 3022) toiling 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 24/7: International News Flock Stop. Also conveniently located near Math, Science, and HLTH (sucks to be Arts, Engineering or Environment).

SE— Software Engineers. 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).

VI— 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?

WUSA— Waterloo Undergraduate Student Association. Works hard to advocate for you and runs lots of cool events and clubs.

There are lots 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

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.
- Telling jokes you heard at 5:00 AM from Tie Guard will not help you get dates, as what was funny then is incoherent rambling now.
- 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. *[Editor's note: with Imprint's recent switch to the magazine format, it might lose one of its most useful properties...]*
- Software Engineers do not like being called "Softies," but that's their name regardless of the undertone.

Ian W. MacKinnon

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 'n' Cheese on Mondays
- Chicken and 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 are board games nights hosted by MathSoc every week as well!

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

NOT SO "STRAIGHT AND NARROW"?

Hey mathies (and anyone else fortunate enough to be reading this awesome publication)! If you are gay, lesbian, bisexual, transgender, 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 3103, 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 or email glow@wusa.ca.

TheUndecided

“WHAT DO YOU MEAN IT’S BAD TASTE TO WRITE RECRUITMENT ADS FOR THE ORIENTATION ISSUE OF mathNEWS?”

I DO WHAT I WANT AND I ANSWER TO ABSOLUTELY NO ONE, NOT EVEN THE mathNEWS EDITORS

Hello, dear readers. You, mere fledgling first years freshly beginning on your post-secondary journeys: how it takes me back! To last year, in fact. Yes, only twelve months ago was I as full of baby-faced wonder and young naïveté as you are right now. Now I’ve become a jaded, senile crock that gets CS 136 midterm flashbacks in the middle of the night, but preaching to the children makes me feel young again. That’s why I decided to write something for this very *special* issue of **mathNEWS** you hold in your hands right now.

I wanted to write a lot more articles, for all the juiciest insider tidbits I learned over the course of eight months at UW. Like where the best washrooms are located and which restaurants within a 30-min walk of campus that have the most value for your money are the least likely to give you salmonellosis. But alas, the editors gave me four days notice that they were taking new articles for the orientation issue and I only had the time this week to bust out one. So I had to focus on what I wanted to tell you younglings the most, and as it turns out, I decided I wanted to tell all of you to try out writing for **mathNEWS**. Yes, that’s right! You!

Nobody really knows what **mathNEWS** is. If one thing’s for sure, though, it’s that it’s definitely not a newspaper (God forbid I hear *any* of you infants say that whenever I pass you by in the halls). It’s part amateur comedy zine, part anonymous blog, part platform for earnest student expression, and part long-form shitpost. All written, edited, and run by Math students, *for* Math students. Doesn’t that just set fire to the social anarchist inside us all? In terms of other student publications, there’s Imprint and there’s Iron Warrior (which is much better than Imprint but only relevant to you if you’re in SE), but **mathNEWS** is simply in a class of its own. Nothing in the world is quite like it.

I’m hoping that this issue gives you a good taste of what **mathNEWS** is like and leaves you interested for more. My own orientation issue from last year is what first got me hooked onto **mathNEWS**. I’ll have you know that we have every single issue from as far back as 1973 or some shit posted on mathnews.uwaterloo.ca, so if you’re a real go-getter you can check it all out over there. Or you can peruse a lovely, colourful assortment of recent issues outside the **mathNEWS** office on the third floor of MC if paper’s more your thing.

If you get any enjoyment at all from reading **mathNEWS**, I assure you that you’ll have six times as much fun writing for it. Like, come on, you get to write about whatever the hell you want and have your words immortalized in the **mathNEWS** archives til the end of time, and make up a cool pseudonym for yourself, ask profs all your burning questions for the **mathASKS** column, answer the **mastHEAD** with your wittiest one-liners, and so much more to boot. Even if you think

writing’s not your thing, if you come to production night and barf out an N-things listicle over the course of two and a half hours, you’ll still get free pizza at the end of the night. Free pizza! You heard me right. We get the good shit too. Come by to a production night one day and you’ll see what I mean. **mathNEWS** people are pretty nice to hang around with too—even the editors! Somehow their dictatorial power hasn’t gone all to their heads (yet).

I guess if you don’t like free pizza (or you can’t make it to a production night but still want to send in stuff), you can always submit stuff to the editors via mathnews@gmail.com.

In conclusion: write for **mathNEWS**. There’s free food. You meet people and make friends. Your writing gets published. You’re building and taking part in the student community. It’s fun.

See you soon,

Finchey

P.S.: A treat for you if you’ve read this far: my favorite cheap restaurant is Pub on King in Uptown (everything on the menu is \$8! I recommend the fish and chips or chicken burger), and the second-best washrooms on campus are the ones up on the fifth floor of STC. The first-place bathrooms will remain my little secret.

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

SMOKING HOT CO-OP ADVICE

Since the co-op process can be pretty intimidating and unintuitive for newcomers, I'll outline some tips for blazing your way to success on your first co-op. The CCD (official co-op people) will explain the process and requirements to you in the semester before your first co-op term, but these are a few extra tips and tricks for taking your game from so-so to flaming hot.

GETTING THE INTERVIEW

- It's all about the résumé, although on a side note, making sure you have a positive social media presence can help for some jobs as well.
- If you're having trouble writing your résumé, start by describing all of your work and volunteer/extracurricular experience in the last 4–6 years, then reduce that down to simply the most recent and/or relevant positions. The final copy of your résumé should be 1–2 pages total.
- If you have personal side projects related to your field, definitely include them! For example, dropping a link to your GitHub account or a personal website is a great way to stand out if you're applying to programming or web development jobs.
- Don't underestimate the value of soft skills like communication or teamwork. Even if they're completely unrelated to your major, you can use activities like playing in a band, being part of a club, or writing for **mathNEWS** *cough* shameless plug *cough* to show your leadership/teamwork/communication/other skills.
- Get someone to proofread your résumé. Seriously, I cannot emphasize this enough. Ask a knowledgeable friend or head to a résumé critiquing session on campus—find more than one person who will give you honest and detailed feedback on the quality of your résumé. Like a good essay, résumés usually need several revisions before they are presentable.

PASSING THE INTERVIEW

- So you got an interview—congratulations! You've made it past the first step, so give yourself a pat on the back and then put on your war paint.
- Research the company before doing the interview. You should be able to clearly and concisely state what the company does if they ask (which some occasionally will).
- Make a list of your key strengths that you can market in that particular interview. Look for opportunities to tout these strengths as the interview progresses.
- There are some stock questions that come up frequently in interviews, like “Tell me about yourself,” “What are some of your weaknesses?,” “Why do you think you fit this job?,” “Why do you want to work here?.” Thinking about your answer to

some of these questions before the interview will help you avoid foot-in-mouth scenarios.

- Prepare a list of 3–5 questions to ask at the end of the interview. The employer may have already answered some of these questions during the interview, so having more than 3 means you can have back-ups. Make sure to include questions about things that will help you choose which job you want (work environment, pay, location, etc.) as well as ones that show interest in the position (job duties, typical work day, etc.).
- Find some good-looking clothes, and be ready at least 10 minutes before the interview. Some interviews may start early (in-person interviews especially), and if not then the extra time gives you time to breathe and calm down.
- Just relax. No seriously, just relax and be natural. You've already made it this far, you're prepared for this,

In the end, the interview process is a bit weird. You'll have some interviews that you thought you bombed only to find out you got an offer (that's how I got my first co-op job), some interviews that you were sure you rocked for which you are never ranked, and some interviews that go exactly as you expect. All you can really do at the end of the day is try your best and not take the results too personally. If you're having trouble, CCD offers lots of resources to help spruce up your job prospects and there are lots of other students and upper-years around campus who have tons of great advice. Best wishes!

BlueberryMuffin

I DUNNO ABOUT YOU GUYS

But I never really have any problems with eduroam, it always seems to work well for me.

Foolish Student who is about to have problems with eduroam

**mathNEWS isn't a cult.
We just lure people in
with free pizza and trap
them in our office. Come
by to get a taste!**

A mathNEWS CULT LEADER EDITOR

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

Little firsties! I remember my first issue of **mathNEWS**, printed on paper and stuffed into my orientation bag—the start of something new and beautiful. In time, you too will start idly picking up copies of **mathNEWS** sitting on stands in MC, enjoying the lovely variety of shitposts, stories, math, news, and other things we talk about here, and eventually coming to your first prod night and starting to write for **mathNEWS**. But that is the future and this is now—now, you're a brand new student in the Faculty of Mathematics, with a bright academic career ahead of you. Congratulations!

Now, one of the most important things you need to do as a student at UW is choose your courses. 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 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 (most notably that it doesn't account for you wanting to take enriched second year courses, or specific 3rd/4th year courses), 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/>

Odyssey Projected Course Offerings (seems to cover everything except specialist CS courses): <https://odyssey.uwaterloo.ca/ofcourse/app/>

Computer Science Undergraduate Courses (use the Terms Offered form for specialist CS courses): https://cs.uwaterloo.ca/current/courses/course_descriptions/

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 fulfill 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'll want to, at least once per 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.

Note that certain courses, especially upper-year or advanced/enriched courses, are only offered during specific terms. It is very easy to accidentally plan to take a course in a term that it isn't offered in, and you want to avoid that. I've linked a few sources earlier for finding out which courses are offered in which term, but note that this information can sometimes change depending on what department/school you're in. If in doubt, ask an academic advisor (see “Getting Help” below).

STEP 2: FIGURE OUT HOW TO DO IT

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

Schedule of Classes: <https://classes.uwaterloo.ca/under.html>

Understanding the Schedule of Classes: <https://uwaterloo.ca/registrar/registering-courses/understanding-schedule-classes>

[Editor's note: The information in this section may change soon, as the university has indicated they will shut down access to public websites with course information, which may include the Schedule of Classes.]

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, you select what course code you want to look up, 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 Seq Prog Enriched									
Notes: ALL in-person TUT attendance is not mandatory.												
Class	Comp Sec	Camp Loc	Assoc. Class	Rel 1	Rel 2	Enrl Cap	Enrl Tot	Wait Cap	Wait Tot	Time Days/Date	Bldg Room	Instructor
6791	LEC 001	BLND ONLINE	1	101		40	40	0	0	02:30-03:50Th	Online	Lee,Edward
Reserve: CS (No SE) students						20	20					
Reserve: Software Engineering Students						20	20					
Held With: CS 241E LEC 002												
6792	TUT 101	BLND U	1			40	40	0	0	02:30-03:50T	MC 2966	Lee,Edward
Held With: CS 241E TUT 102												
19723	LEC 002	ONLN ONLINE	2	102		40	40	0	0	02:30-03:50Th	Online	Lee,Edward
Reserve: CS (No SE) students						20	20					
Reserve: Software Engineering Students						20	20					
Held With: CS 241E LEC 001												
6793	TUT 102	ONLN ONLINE	2			40	40	0	0	02:30-03:50T	Online	Lee,Edward
Held With: CS 241E TUT 101												

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

Comp Sec: These are the different sections for a given class. Common values you may see here are LEC (lecture), TUT (tutorial), and TST (test). Most often you’ll have to choose one of each—so if a course has lectures and tutorials (like above), you’ll have to pick one lecture and one tutorial. Sometimes picking one will automatically decide the other, and sometimes you’ll get a choice.

Different sections differ in the day/time at which they’re offered, the room in which they are held (Bldg Room), and the instructor. If you have a preference for particular values of any of these, you might want to try to go for that section.

Camp Loc: This tells you where exactly your course will be held, and is composed of two words—the *campus* and the *location*.

The main campuses to keep track of here are the campuses “UW,” “BLND,” and “ONLN”—they mean that your class will be on the main UW campus, blended (ie. with parts on campus and parts online), or fully online, respectively. The main locations are “U” and “ONLINE”—they mean that this particular class will be delivered on campus or online.

So in the above example, BLND ONLINE means that this is the online part of a blended course, and BLND U means that this is the in-person part. ONLN ONLINE means this course is only online, and UW U means this course is only in-person.

There are other values for Camp Loc—you might get “REN R” if your course is taught at the Renison University College rather than the main campus, for example. A full list of values is in the “Understanding the Schedule of Classes” link above.

Instructor: This is the name of the lecturer/professor who will be teaching the course. Some people like to optimize for the best professors by looking at reviews on places like Reddit and RateMyProfessors and UW Flow—but in my experience,

it doesn’t really matter. I use those things as filters—maybe I wouldn’t take a prof with a 2-star rating or a ton of bad reviews, but there’s really no difference between a 4-star rating prof and a 4.5-star rating prof. It’s way more useful, in my experience, to optimize for lectures that are at a reasonable time (you’ll never find me in an 8:30 AM lecture again) and not too far to travel (you don’t want to run from M3 to RCH in ten minutes everyday—I speak from experience).

Enrl Cap: This is the maximum number of students that can be enrolled in a class or a reserve. For in-person classes, this is generally determined by fire safety regulations—you can’t have more than a certain number of people in a room, legally. For online courses I think it’s determined by how many students the instructors think they can reasonably mark work/hold office hours/do other stuff for, but I’m not sure.

Enrl Tot: This is the number of students currently enrolled. It is possible 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—see the reasons outlined above.

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.

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.

There are other fields as well, and some of these fields only show up in courses that need them. If you see anything that I didn’t cover, again, check the “Understanding the Schedule of Classes” link from earlier.

Most of this information is available in a more accessible format on UW Flow, but it’s updated more frequently on the Schedule of Classes, 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. Also, if for some reason you don’t see some information on UW Flow, check the Schedule of Classes as well—sometimes UW Flow just doesn’t import professor names and stuff.

Small tip: If you’re on the UW Flow page for a particular course, you don’t have to navigate through the annoying Schedule of Classes interface to find it again—a link to the corresponding page is at the bottom of the UW Flow table.

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:

Course selection period: Generally happens at the end of the first month of the previous term. Here, you choose which courses you would like to have next term. This period is *not* first-come, first-served—everyone prepares their course lists on Quest and can edit them at any point during this period, and after this period is over the information is given to the university staff so they can figure out what classes to hold, how many sections of them to hold, and such things, for the next term.

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.

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.

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?).

Side note: the Important Dates calendar will also have other, well, important dates—like university holidays, the days when classes start/end for a term, the days when exams start/end for a term... it's generally a good idea to keep an eye on it.

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 add a few little bits of helpful information to augment them:

1. When course-selecting, you need to arrange your courses in order of priority, with 1 being most important. The official stance regarding these numbers is that you should rank your required courses the highest, and then rank electives lower. I tend to optimize a bit further—I will generally rank a “harder-to-get-into” course higher to increase my odds of getting into it. You can tell which courses are harder to get into by looking at their Schedule of Classes listings from previous terms—if all sections are full or nearly full, they're likely hard to get into.
2. During add-drop, you might run into a situation where a class you want to get into is full, or all free slots are reserved. You can wait for reserves to drop, but it is more efficient to keep an eye on the Schedule of Classes page and wait for someone to drop the class—this will happen as people move around their schedules to suit their needs.
3. You can drop a course for a particular at any point, up to (but not including) the day that final exams begin for that term. However, dropping a course at different points has different outcomes.
 - Dropping in the drop period removes the course from your transcript entirely—it's as if you never took that course at all.
 - Dropping a course in the WD period will keep that course on your transcript, with a grade of WD (withdrew). This does not count in calculations for your overall average, but future employers and grad school applications will be able to see it. General consensus is that a small number of WDs (1–2) is fine, if you're considering more then you should talk to your academic advisor (see “Getting Help”).
 - Dropping a course in the WF period will keep that course on your transcript, with a grade of WF (withdrew—failed). The course will count as

32% for purposes of overall average calculations. I think it's almost never a good idea to do this, because even if you're about to fail a course, you can probably muster a grade higher than 32%. If you're considering a WF, talk to your academic advisor (see below).

GETTING HELP

Academic Advising, Faculty of Mathematics: <https://uwaterloo.ca/math/current-undergraduates/academic-advisors>

Math Advisors email: 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: in certain departments, if you want to get into an advanced/enriched/upper year course but don't meet the requirements, you'll have a much better shot emailing the professor directly rather than emailing advisors.

CONCLUSION

And that's it! That's basically everything I know about selecting courses, and I've enrolled in nine^{1,2} 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

1. Including co-op terms! I took non-PD courses on some of them, and you can too—but either you have to be in Waterloo or it has to be an online course.
2. Holy crap I feel old.

HOW TO SUCCEED IN YOUR MATH COURSES

ADVICE FROM AN UPPER YEAR WHO FAILED FIRST YEAR

I hope that subtitle grabbed your attention. It's a little bit dramatized, but I did actually fail two courses in my 1A term, and I averaged a 59.8, I was forced to change sequences, and I was threatened with being removed from my program. I'm now excelling in 4th year and graduate level math courses, and am doing original research in the pure math department. I also tutor lots of students, and I've seen people struggle and succeed in a huge variety of courses. Studying in high school is very different from studying in university, and in this article, I'm hoping to give an idea of some of the changes you should be making.

First and foremost, before we get to the practical, **if you want to succeed, you need to take care of yourself.** This means eating enough, sleeping enough, hydrating regularly, getting time outside, socializing, taking breaks, being physically active, and doing whatever else you need to take care of your mental health. All of these points are non-negotiable.

The fundamental struggle of university math courses is that they start asking *why* and *how*, not just *what*. Most of high school math is rote, in that you are given a formula or technique, and asked to apply it. Most problems are directly from the textbook, maybe with the numbers changed, but you can fundamentally get by just practicing a bunch of practice problems and memorizing a few algorithms.

In university, you will be asked questions you have never seen before on exams. You will be given problems that genuinely require new problem solving skills, that take insight and understanding, that require you understand *why* something works, not just *that* it works. Because this approach is

fundamentally different, your studying will also probably need to change.

Your courses will now start proving propositions in lectures. You will be given rigorous, precise definitions of terms, and formal, detailed proofs. You should aim to understand all of these proofs completely, and to understand why things are defined the way they are. When you see a new definition, theorem or proof, you should always *immediately* ask yourself:

1. What is the intuition behind this? Why does this make sense? If it's a definition, why does this capture the idea the definition is about?
2. Does this look like anything I've seen before? Is that a coincidence or is there a connection?

It's OK if you can't answer these questions right away, and it's OK if you need to ask outside sources, but these want to be understood. Again, unlike high school, it doesn't just matter *that* things are true, it matters *why* they are true, because you will be expected to create similar arguments on your exams and assignments, and the "why" of the truth can often inform you of where you'll need to use it.

When going through a proof, first read it through completely, and try to capture the general idea. Sort of figure out overall what it is saying. Then, go through it slowly and carefully, at each sentence, ask yourself the same basic questions:

1. Why was this sentence valid?

2. Which hypotheses are we using? In math, a hypothesis of a theorem is a condition you're assuming true. For example, if I say "If x is odd, then $x + 1$ is even," my hypothesis would be " x is odd."
3. Why might someone think to do this?

Question 3 is especially crucial here, because that helps you practice for your own problem solving. You will often get to a point in a problem where you have no idea what to do next, but any example or theorem you already have is a template! You won't be able to directly copy anymore, but you can learn from the given examples and solutions by asking yourself *why*. Once you have a general idea of why something works and the ability to explain why every individual step works, you will be able to prove it on your own, and you will be able to work through similar problems. Again, if you're having trouble with these steps, ask your professors, classmates, TAs, tutors, upper year friends, or anyone else who can help. Once you're done that, I would recommend asking the following questions:

1. Is this proof like anything I've seen before? Why are they connected?
2. Can I lose hypotheses or generalize this theorem?

These aren't questions that need to be answered, but they're good to ask, because they get you thinking on a deeper level, and again encourage problem solving.

Speaking of problem solving, this is the one area where I think excessive help will hurt. In order to practice solving problems, you need to... solve problems. It is completely OK to get hints and guidance, but I would strongly recommend that you almost never look at solutions to problems you haven't solved yourself. The reason for this is that, if you are given a hint and you solve the problem on your own, you have learned something and practiced problem solving. If you just look at the solution, you've learned something, but you've left a crucial skill undeveloped, which will really come back to bite you in the ass when exams come around.

When doing assignment questions, often finding the answer comes down to asking yourself a good question. "What is the definition of everything involved," "What is the intuition here," and "Does this look like anything I've seen before?" will almost always be shockingly good starts. Sometimes there is no intuition, sometimes it doesn't look like anything you've seen before, and sometimes the definitions don't help, but these three basic ideas solve a ton of problems. If you try something that almost works, ask yourself how it can be modified or why it failed; if you try something that seems really tedious, ask yourself why it's tedious, and if that can be avoided.

That's all for now. Good luck in your first year. You're really in for an incredible experience, and remember—supports exist for a reason! Take advantage of them :)

Golden

BEWARE OF SUS EMAILS

You there! I will assume you already have your uwaterloo.ca email. You might be enjoying your new email account by reading emails in your practically empty inbox. Don't worry, because it will soon be filled up with hundreds of emails in no time. Although, what you should worry about are potentially sus emails.

Just because emails are only coming from other uwaterloo.ca addresses soon after getting your email doesn't mean you should just trust them. When I just got my email address, there were a couple of regular emails that would come from uwaterloo.ca emails, from who-knows-where. It's not like I knew anything about where I got emails from at UW. Everything was new to me.

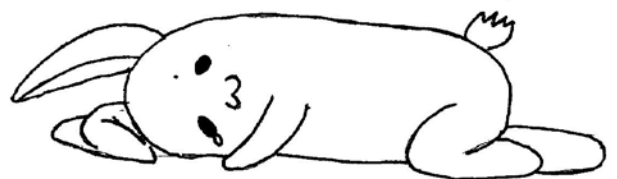
One day I got an email from yet another uwaterloo.ca email, with files that it wanted to share with me via OneDrive. I didn't know why they wanted to share some files with me, but considering that there had been other emails that contained files before from various uwaterloo.ca accounts, it didn't seem out of the ordinary. So, I trusted it like any other email address from a uwaterloo.ca account. That was a mistake.

I didn't know how any of this worked. I didn't even know what OneDrive did, just like all of the other new things I encountered as I began becoming a UW student. So, I just followed along. I clicked the link, it asked me to log in to my email account again, and I got my files. That was the second mistake.

The files were random documents from a completely different university. That's when I realized I fucked up. So, in a panic, the first thing I did was reset my password. Secondly, I went back to that original email I received to see what on earth went wrong. It turned out to not be some university email account file sharing thingy but instead a picture link that sent you somewhere completely different. I was shocked at that realization, because in my personal email account, those things get filtered out, and even if you end up opening it, you can see that stuff did not load properly, letting you see that it is a sus email right away. That didn't happen here.

I then emailed IST support telling them that this user's email account was likely compromised, and also forwarded them the sus email from that account. I don't know what happened afterwards, but the lesson is to not blindly trust uwaterloo.ca emails, because you never know which of them will end up being an imposter.

boldblazer



SO YOU THINK YOU CAN RESEARCH

ADVICE FROM A RENOWNED SILLY mathNEWS GUY

There you are—I see you there, holding the **mathNEWS** in your hands. You want a taste of the academic life, don't you? No, I don't mean classes—you'll get those soon, believe me—I mean the *real* academic life. A taste of *discovery*. Maybe you also want a taste of *money*. Well, leave that second one on the backburner for a minute while I bring to you some practical, no-nonsense advice on undergraduate math research.

WHEN CAN I START?

Well, not right now—and probably not for your first co-op, either—but sooner than you might think! I've had some friends who've started as soon as their second or third co-op. Usually, you'll want to have the relevant second-year courses under your belt so that you have some mathematical maturity that'll let you think hard about math.

When you decide you want to start looking into this, make sure to keep a close eye on deadlines. Seriously. Don't trust the ones you see online; contact whoever's in charge and confirm dates with them. Depending on the funding source you're going for (usually the NSERC USRA or MURA), deadlines come fast, some as soon as a term before you'd actually start!

BUT WHAT IF I DON'T KNOW THE MATERIAL?

You and me both, pal. You think anyone knows the material before starting research? You'll spend the first month or two just learning the necessary content—that's a built-in part of the process. Your prospective supervisor probably doesn't expect you to have all the necessary background before starting—they just want to know that you're passionate, that you have some amount of interest in the field, and that you're eager to learn. The learning will be mostly self-directed, though—you'll need to be ready to read the notes and papers your supervisor tells you to.

BUT WHAT IF I'M NOT SMART ENOUGH?

You are smart enough. You might not always feel that way—Waterloo is home to a lot of smart people—but you're here. You're one of the smart people. You can do it.

WHAT IF I DON'T LIKE THE SUBJECT?

That might happen! It happened to me. But you'll be OK! It's the same risk as with any other co-op; the whole point of the program is to help you decide what you want to do after graduating, while also giving you some experience points for your resume. If you find yourself not liking the work, you can talk to your supervisor and see what kind of flexibility they have with what you spend your time researching. Usually they'll have a few different projects on the go, so they might be able to shuffle you onto something else. They want you to get something out of the term, so work with them!

WHAT'S THE PAY LIKE?

Hah! Don't go into this for the money. You'll get paid enough, but your friends working software jobs will be getting paid more. Tough luck, I guess. If you need more money, look into doing some part-time work tutoring or something.

HOW CAN I START?

Just email a prof. Seriously, just pick one and send an email. Even a cold email is fine, I've gotten two co-ops this way before. By the time you start rounding off your second year, you might have some ideas of some professors whose field of research you might be interested in. If not, that's OK—try looking online for faculty that do research you might be interested in, and ask for advice from people who have experience with faculty. The Pure Math Club (MC 3033) is a great place to start since a lot of people in that club are into research. Walk in, and people will usually be dying to tell you stuff about whoever. You can also ask other profs for recommendations on who in the faculty might be looking for undergrad researchers, depending on your area of interest.

Once a professor agrees to supervise you, you'll need to jump through one or two hoops of applications to actually get the job. Your supervisor isn't actually the one that's paying you; most of the time, your pay comes from grants given by the University and/or the government. There's info on each department website about how to apply, and if that info isn't enough, send an email to the administrative coordinator.

WHAT IF I DON'T PRODUCE ANY NEW RESULTS?

That's OK! That's how it goes for most undergrad researchers. You only have four months and math is fucking hard. The focus is more on getting exposure to real research math; contributing a real result is just a bonus if you stick with the material and get lucky. Your supervisor won't really expect you to produce anything by the end of the term unless you agreed on a specific deliverable, which might be more realistic depending on what kind of research you're doing.

Anyway, good luck going after the research job! If you aren't sure, it can't hurt to try—it might be right up your alley after all.

jeff

Anyone got a joint or
something to smoke?

PROF. TROY VASIGA

SOME NOTES ON CONSENT

Consent makes it on the *very* unfortunate list of things you (a) really need to know and (b) are barely taught.

The full extent of most consent education is “If someone says no, that’s a no, and if someone doesn’t say yes, that’s also a no.” It’s fantastic that we as a culture have progressed to that point, but it’s a far cry from complete. Consent is also something that, if fucked up, can cause a great deal of hurt. This article can’t possibly fill in *all* the gaps, but instead, I’m writing some things I wish my partners had known, and the guidelines I follow that my partners have appreciated, with lots of input from my friends. Well-intentioned but ignorant people can cause a lot of hurt.

- First and foremost, these are general guidelines. If you make specific agreements with your partner that change these, that’s fantastic—these are meant as baseline rules and considerations, not universal maxims.
- Consent should be enthusiastic, not reluctant. If your partner seems like they’re saying a half-hearted yes, it’s safest to treat it as a no.
- Physical arousal is not consent. Physical arousal is correlated with, but does not imply, a desire for sex.
- A person’s outfit is not consent to anything.
- Consent must be continuous. That means consent can be withdrawn at any moment before and during the act.
- Continuous consent means that the conditions of the consent must continue to hold. If a person was previously enthusiastically consenting but now appears conflicted, *that is no longer consent*.
- Consent must be *specific*. A person consenting to making out *has not necessarily consented to anything beyond that*. It’s important to ensure others actually want to progress—sometimes, it’s only a kiss.
- If your partner has said no to something, don’t ask again. If you want something to happen, you ask, and your partner says no, asking again creates pressure. Instead, tell your partner you won’t bring it up unless they do. **If your partner is not comfortable enough to ask for something, they also likely aren’t comfortable enough to stop it.**
- Don’t ever think that stopping to ask for consent is going to “kill the mood.” There is nothing hotter than respecting your partner. There are also many ways to ask for consent; you can find ones that are both hot and respectful for your partner (I’ve personally found “I really want to kiss you” makes me *melt*).
- Any justification, including no justification, is a valid reason to say no. If something doesn’t make sense to you, is hurtful, or otherwise brings up emotions you need to deal with, you can ask about it later. In the moment, **any reason, or no reason, is good enough for a no.**
- Never sleep with anyone you have perceived or actual authority over.

- Fellas—this is coming from a gal who likes to be choked: you should ask about choking before you do it. This might sound obvious, but porn has fucked up a lot of our perceptions of sex, and made really violent acts like choking and slapping seem normal. In real life, you need to ask!
- Even if your previous partner was okay with something and didn’t need to be asked, you should still ask all subsequent partners!
- Asking a person what they like in bed isn’t a chore—it’s a great way to discover new kinks and preferences that you might not have expected ;)
- If someone has consented to something before, that doesn’t mean they’ll consent to it again. Always ask.
- Nonverbal consent exists, but is often harder to read, and varies greatly by person. It’s always better to start with verbal consent and figure out explicit agreements for what counts as nonverbal consent when you’re not in the middle of sex.
- People in vulnerable spots often have impeded ability to consent. Someone who is fresh off a personal tragedy, heavily emotional, coming to you for support in a capacity beyond normal friendship, or who you otherwise have an imbalanced relationship with probably can’t consent. Give them time to heal, and don’t pursue them in any way; remove yourself if you need to. You obviously don’t need to wait until everything is perfect in someone’s life, but if you’re asking yourself if they’re too vulnerable, they’re too vulnerable.
- If you ask yourself the question “Is this person too drunk?” they’re too drunk. Not having sex is mildly disappointing at worst; you can survive some mild disappointment. If they’re really into you, sex can happen another time, with no risk of blurry lines.
- If someone says no to you, even if this makes you sad or upset, don’t show it in the moment. The response to someone rejecting you should be nothing more than supportive, loving, and positive, so they can feel safe doing so going forwards. If you feel consistently rejected by your partner, that is a thing to discuss, but doing it in the moment creates pressure. Any conversation about feeling rejected needs to respect your partner’s ability to say no—talk to your friends about how to approach this. If you find yourself taking sexual rejection personally, you need to reflect on why.
- Don’t ever (in the moment) tie the sex life to the health of the relationship. Again, sometimes sex is important in a relationship and this can be important to discuss, but doing it during sex, or immediately following a no, creates pressure. Have conversations like that in a safe, neutral environment, separated from sex.

Golden, with contributions from Manganese, molasses, yummyPi, peacelovemath, cutlet, and a cool pen name

TAKING A REDUCED COURSE LOAD

FROM SOMEONE WHO HASN'T TAKEN A FULL COURSE LOAD SINCE 1A

You don't have to do five courses.

The first time I heard this I was in 1B, taking five courses and struggling with CS 136. A week before the midterm, I was in CS Academic Advising office hours, wondering how I'd pass this course—because at the rate my grades were going, the chances of passing were slim.

You can WD from CS 136. You can take four courses.

A WD is a withdraw, meaning that you stop taking that course for that term. You may attempt that course again in a future term.

Back then, all my friends were breezing through the course. Plus, *I was in CS! I had prior CS experience! Perhaps I don't belong in CS*, I thought. *Am I in the wrong program?* No. You're wrong, little labyrinth.

I've come to learn a lot since 1B about course loads and retaking courses, and I'd like to pass them onto you, young mathie, so that you know you're not alone if faced with similar situations.

First of all, withdrawing from a course is okay. So, so many people WD courses. If you're struggling in a course for whatever reason, if you realize that this course might not be for you, or for any other reason, it is completely okay. You probably don't hear about it, especially in first year, because not a lot of folks will tell others.

Some people might not know it's an option. Other times, there's stigma at play. In high school, you were the top achievers in your class, so to drop a course might feel like a failure of sorts. *I was getting 90s in high school. Why am I struggling now?*

Maybe there's a feeling of I need to keep on pace with everyone on my program, and if I WD this course, am I less capable or falling behind?

First year is a difficult time. You're living away from home. You're adjusting to a whole new way of studying, maybe a way of living. Learning in university isn't what it was in high school. You'll have to find new study strategies and ways of organizing your life. Even making friends is different.

You are just as capable as everyone else in your program. It's okay to struggle academically, or in any other aspect of your life. Use it as an opportunity to take a step back and see *why*.

I had to make some changes to the way I studied that term. But perhaps the bigger realization was that I simply could not keep pace with five courses every term. For you, this realization might be different. But finding the reason *why* can take you to your next step—of how you can learn from this, and what you can do moving forward.

When I took CS 136 again, the following term, I made sure to change my study habits. But more importantly, I made sure not to take five courses in the following term, or in future terms. And what a world of difference that has made.

So I'm not less capable? I'm not falling behind?

Nope. University is difficult. Five courses aren't everyone's cup of tea, and that's *okay*. If taking four or even three courses per term is how you can manage your academics with your life, *then take that route*. If it helps your mental health. If it helps you balance your priorities. If it helps you to focus on your courses and your learning. *Whatever reason you may have*.

My one and only five-course term was 1A. I've been doing four or three courses each term ever since. Make your life easier—not unnecessarily harder!

Also, there are *lots* of folks who take reduced course loads. You don't hear about us quite as often, and the overloading crowd is a fair bit louder. Both pathways are very much valid—do as much as you are able to do, and that is enough.

One option is to take fewer courses on study terms and take an extra term on coop. Another option is to take more study terms and extend your graduation date. Both are okay! There's nothing wrong with graduating later than expected. Plans change all the time. Plenty of people graduate later than they thought they would.

Okay, but if I fail a course...

Been there, done that. In a later term, I failed a different CS major course. Did that make me any less capable of being in my program? No!

I had to take a step back and re-evaluate my study strategies, and offer myself some grace. Among other things, there were a few unexpected situations throughout the term. Sometimes that happens.

If you fail a course, the same applies as with a WD. Look at *why*. And look at how you can learn from that, and what needs to change.

Do what you can, and that's enough.

Taking fewer courses does not make you any less deserving to be here. Retaking courses is okay. Struggling is okay. Failing a course is normal. Remember to learn and reflect on it, so that you can do better in the future.

You are not alone. You have a place in your program.

You will do well.

N THINGS YOU SHOULD KNOW ABOUT YOUR WATCARD

WALDO ENJOYS USING IT A LITTLE TOO MUCH.

- It is a bus pass for Grand River Transit. Simply tap it on the card reader and you can ride to wherever you need to get to! It also works with the ION light rail — just tap it on the card reader!
- It is linked to your meal plan and flex dollar accounts, letting you just tap to pay for things.
- If lost, immediately report it to the WatCard office or use <https://watcard.uwaterloo.ca/> to deactivate it to ensure that none of the money is used by someone else.
- It costs \$30 to replace so do your best to not lose it!
- You will need to bring it to EVERY EXAMINATION that you write. Don't forget it!
- It can be used at a lot of places on and off campus, including: restaurants (like Tim Hortons, Subway,

and the residence cafeterias), some stores (like those found in the University Plaza), the libraries (for things like printing, photocopying, and signing out books), the laundry machines in residence, Flock Stop in the SLC (on-campus convenience store), Waterloo Taxi (519-888-7777) and many more! For a complete list of where WatCard is accepted, visit <https://watcard.uwaterloo.ca/>.

- It is used as collateral for resources provided by certain services, like signing out games from MathSoc or booking a room from the Turnkey Desk in SLC.

waldo@<3.LE-GASP.ca

ANYONE CAN MAKE FRIENDS. ESPECIALLY YOU!

SOME ADVICE FROM AN EXTROVERT

I love people. I spend almost all of my free time socializing, when I'm at events I make an active effort to chat with strangers, I say hi to people in class and in cafeterias, and it makes my week when I run into an old friend. I am at my most energetic, brightest, and happiest when I am socializing. To facilitate that, I make a lot of friends. I have a pretty large group of people who I regularly hang out with, and an even larger group who I would consider friends on some level. I know people from class, parties, club events, random encounters, through mutual friends, the gym, rock climbing, and dozens of other situations. This means that I've had a chance to practice socializing a ton, and so I've developed it as a skill. The goal of this article is to share some of what I've learned, and hopefully make it a little easier.

No matter what anyone tells you, socialization is a skill. You do not need to be born naturally charming and charismatic to make friends easily. People aren't a monolith, obviously, but there are baselines for any interaction, and the more you practice socializing, the better you will get at it. This article is meant to be a starting point, and it probably won't work for you right away! You won't be perfect, and that's OK — I still consistently screw up basic socialization, but I try enough, and I've practiced enough that I can still make new friends.

The first step is to find people to talk to. Luckily, this is really really easy. Waterloo has a reputation for being antisocial, but this is completely inaccurate. Most people here like socializing, want friends, and are generally normal people. However, most people are also fucking awful at approaching others. If you want to reliably make friends, you will have to take the initiative. Say hi to someone after class! Ask them if they want to study together! Go to club events and talk to people, ask them how they heard about the club! Rock climb or swim or dance and chat with the other people there! Don't bother people who have their headphones in, and don't bother

people who are deeply focused on something, but in public spaces, chatting with people is completely OK. If someone is showing absolutely no interest in talking to you, leave them alone, and don't take it personally! There could be a million reasons; some people want to focus on what's at hand, some people might be having a bad day, some people might just want some alone time.

Now, once you're talking with someone, what can you actually say to have a meaningful and enjoyable conversation?

In my experience, the most consistent way to get someone else talking is to show sincere curiosity about or interest in them. Asking questions is a fantastic way to do this. The thing is, if you just consecutively ask someone about everything in their life, it can end up feeling a lot more like an interrogation than a conversation — and that's why the goal of questions should be to find out what the person enjoys talking about. Questions inform you of what direction to take the conversation, they aren't the point of the conversation. Generally, questions directly related to the context you're in are the best starting point, since they're the least likely to come across as creepy, and the most likely to create common ground for conversation. If you're in class, asking someone if they understood the lecture is much more likely to lead to a conversation than walking up and asking them if they have any pets.

As you chat with people, gauge how they're reacting. If you ask some people about their family, they will gush about a wonderful mom or complain about fights with siblings; others won't have much to say. Hobbies are something that you can get almost anyone talking about, but some people will be embarrassed or just *shy*. The best way to make someone comfortable is to really care. Look at where they care, what they're focusing their conversational effort on, and invite

them to share more. Most people are absolutely fascinating, and just don't feel fully comfortable opening up, and by giving them the space to, you'll not only make them feel heard, you'll get to learn about something new and exciting!!

One of the worst feelings in a conversation is sharing something personal or important and having it glossed over, dismissed, or simply not acknowledged. By asking questions, by following up and *caring*, you can create a really positive environment for whoever you're talking to, and that is the basis for any connection.

When sharing about yourself, I think the single most important piece of advice I can give is to be authentic and unabashed. Someone asks you your hobbies, and you like painting models of trains built between 1908 and 1912? Fucking *own it*. You might be embarrassed, but here's the thing—if you care about something, and you let that passion and excitement shine through, you can get people invested in something they normally wouldn't care about at all. An excited teacher can make a “boring” class fun, and an excited person can make a “boring” conversation interesting. Don't lecture people unless they ask for it, because you don't want to launch into the minutiae of right wood grain for a 1910 vs 1908 locomotive right off the bat—instead share broad

overviews, and leave rooms for questions and conversations. You don't want a 20 minute monologue, you want a few key tidbits that lead to a longer back and forth conversation where you still get to share everything you would have said during the monologue. This builds connection and makes the other person actually engage.

If you enjoy the artistry of painting the models, mention that, and then if they have any artistic hobbies they have a chance to bring them up. In general, an emotional side will be much easier to connect with than a practical side, especially if it's a niche hobby.

This level of openness might get you judged, but the thing is, if a hobby or idea or interest is important to you, the kind of person who will judge it is not the kind of person you want to be friends with. Authenticity finds you the people who actually get along with *you*, and that is the space in which friendship can happen.

Next time you're out, talk to someone new, and show some interest in them. You'll be surprised how well it works :)

Golden

A FIRST YEAR'S GUIDE TO MC

Welcome, newbies! Now, being new students you no doubt find MC to be a large, terrifying behemoth of a fortress from which no soul can ever escape. That doesn't go away. But I'm here to make you lost slightly less often when you're wandering these desolate corridors.

First of all, in each corner of each floor is an extremely useful map of the floor (just like in every building on campus), with room numbers and little pictures. If you're looking for a class or professor's office, these maps are key. (For the purposes of this article, *west* is defined to be the side closest to the SLC.) Every floor has women's, men's, or gender-neutral washrooms in opposite corners of the building. So you don't have to walk down more than one side of the building to find a bathroom.

First floor: You might have a class on the South side of this floor. There are exits at each corner of the building (and on the south side halfway between the first and second floors). Graham, the university's supercomputer, is located on this floor.

Second floor: You will probably have a few classes here, mostly on the north and south side. There are a couple of computer labs here, if you're in need of a computer lab.

Third floor: This is really the heart of MC. You have the Comfy Lounge and the C&D on the South side, most of the club offices on the East side, more labs in the middle and west side, and the Math Faculty Computing Facility (MFCF) over near northeast. If you have problems with your Waterloo

accounts or other computery problems, you can see them. It's also the home of MathSoc (MC 3038). You should swing by if you get the chance; they offer a lot to math students (including free candy!!!).

Fourth floor: There are a lot of classes here, as well as some important offices. The Math Undergrad Office, which you'll need to get course override forms and all kinds of administrative things, is on the north side. The Math Orientation Office is also on this floor.

Fifth floor: There are a couple of prof's offices on this floor, as well as a lot of graduate student offices. The Dean of Math's office is also on this floor, on the southwest side. Starting on this floor, the bathrooms start being a lot cleaner, too.

Sixth floor: Once an endless labyrinth of twisting corridors, the sixth floor has been renovated and is occupied by mostly professor offices. The south side has the Centre for Education in Mathematics and Computing (CEMC), which is the department that helps schools in Ontario and all over the world to teach math and computers. Really great people.

Seventh floor: IT DOES EXIST! I'VE SEEN IT! IT — *[The rest of this article has been withheld by the University Censorship Board, which does not in any way confirm or deny the existence of a seventh floor of the Mathematics and Computer building.]*

Prometheus

USE A CALENDAR

There is a certain kind of person for which the advice in this article will be completely unsurprising. They will look at this and say, “What? This guy only figured this out now?” If you read this and think that, then this article might not be for you. There’s a bunch of other amazing articles in this issue. The one directly above this one is definitely worth your time.

But if you’re like me, read on. This might be helpful.

In high school, there is a sort of osmosis by which you keep track of important dates like assignments and tests. Teachers will bring them up during class, your friends will discuss them with you, and since you’re probably sharing almost all of your classes, even in higher grades, they’ll be discussing the same tests you’re taking.

Even in the first year of university, this sort of holds up. There are core courses every first year takes, and if you go to all your lectures like a good student, the profs will usually mention midterms and what have you.

However, the years wear on, and soon you find yourself taking a political science course that you don’t know anyone in, and you haven’t been to a lecture in weeks, and surprise, the one week you decide to check in and see what’s up, they’re holding a whole-ass midterm that you haven’t studied for, because you didn’t know it existed.

The title might have clued you in to what I’m about to recommend. Use a calendar.

When you start the term, and all the course websites are active, go through each one, open the course schedule in one window, and open Google Calendar in another window. Do that thing where you can split your monitor into two windows and just copy everything over. I mean everything. Even those five-second discussion “responses” you have to do.

Again, if you’re like me, this will sound like an outrageous expenditure of time. Spending an hour and a half on clerical work? When there are YouTube videos you could be watching? (Let’s be real, probably rewatching.) Do it anyway. I started this practice during lockdown and it literally changed my life.

First, the obvious benefit: you know when things are! Yes, in first year, most math courses boil down to “hand in assignment before Tuesday night,” but there are still midterms and electives to contend with, and weird one-off date changes when the gamers occasionally rise up on Piazza. Even better, your calendar lets you know when *everything* is, all in one place. This lets you plan out what to work on next without clicking through all five of your course pages, all of which, of course, store information on due dates in a different place.

However, there is a more subtle advantage. It gets easier to trick yourself into doing things. When you create your assignments on Google Calendar¹, make sure to set them as tasks, not events. Why? Tasks have this big “Mark Completed”

button that checks off the task and crosses it out. This triggers that primordial part of your brain that responds innately to checkmarks, giving you great pleasure when finishing tasks. Going to your calendar to check them off also exposes you to upcoming tasks, so you have no excuse for not doing them.

You might be thinking after reading that, “Sounds like a good idea, but I’ve never missed anything important before, so I don’t need to do this.” That’s what I said, too. The fact is, if you’re at Waterloo, you’re probably pretty good at school. This lets you paper over all kinds of things with brute force. If you don’t really need to study, it’s okay if you’re surprised by a test the day you have it.

But, this is like fixing a leak in your boat by getting rid of the excess water *really* fast. It doesn’t matter how fast you are, the boat is eventually going to sink. Just plug the leak now. Use a calendar.

UW Unprint

1. If you don’t use Google Calendar you’re going to have to translate this advice into your calendar of choice. The key part to carry over is the checkbox.

ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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WELCOME TO gridWORD!

gridCOMMENT 153.0

hello everyone!! welcome to waterloo, and more importantly welcome to your home in mathematics :0

thank you for picking up a copy of the most respectable newspaper publication in existence (**mathNEWS**)!! this section of **mathNEWS**, reserved for the end of each issue, is what is known as a **gridWORD**. they are most definitely not crosswords, they are **gridWORDS**, please do not get them confused or else the **mathNEWS** editors will cry :(

i am the current **gridMASTER** for the **gridWORD**, meaning i construct these just for you, the reader, so you can have some fun solving some clues!! in future issues, submitting your solutions to the **gridWORD** invites you for a chance to win a

\$5 CnD gift card, the most prestigious thing a mathie can ask for! :)

i invite you all to do your best and just enjoy solving clues and perhaps learning new things along the way. this issue is themed after some common things an average mathie will know, indicated by an asterisk beside the clue.

i look forward to seeing you all in the next issue, and wish you all a wonderful year!! :)))

Wink wonk

ACROSS

- 1. Greek portico
- 2. Blood's fluid
- 10. Increase, with "up"
- 14. Song of praise
- 15. Yogurt-and-cucumber side dish
- 16. Blunders
- 17. Ill-kept confidence
- 19. Droops
- 20. The "D" of 38 Across*
- 21. More of the same
- 23. Kind of beam
- 26. Takes to court
- 27. Arugula alternative
- 30. Punctual
- 33. Porn
- 34. Edit
- 36. Haul
- 37. Goodyear product
- 38. Where a mathie gets their lunch*
- 39. Refer to
- 40. "A Nightmare on ___ Street"
- 41. Elect
- 44. Assert
- 45. Finds a new purpose for
- 47. Like some grapes
- 49. Soil
- 50. Poison plant
- 51. 135 Class*
- 54. Brought out
- 58. Runs out of steam
- 59. Wavering
- 62. Heaps
- 63. Halt
- 64. Eurasia's ___ Mountains
- 65. Mimic
- 66. Sword handles
- 67. Unload, as stock

- 11. Like associative or distributive
- 12. As a result
- 13. "Hey ... over here!"
- 18. Asterisk
- 22. Mother's sister
- 24. President-___
- 25. Inflammation sign
- 27. Aromatic compound
- 28. "Say cheese!"
- 29. Cranky person
- 31. Particles
- 32. Decorative pitchers
- 35. "Farewell, mon ami"
- 39. 137 Class*

- 41. Sink or swim, e.g.
- 42. Massive flightless bird
- 43. Batman and Superman, to villains
- 46. Rest of the afternoon
- 48. Carpenter's groove
- 51. Eve's man
- 52. Easter flower
- 53. Side squared, for a square
- 55. Medical breakthrough
- 56. And others, for short
- 57. Big name in computers
- 60. WWII fliers
- 61. Waterloo timezone

DOWN

- 1. Not barefoot
- 2. Proof goof
- 3. Doomsayer's sign
- 4. Ringed
- 5. Blood vessel-constricting drug
- 6. Fond du ___
- 7. Cause of inflation?
- 8. Dish cooked in a pot
- 9. Your student society*
- 10. Sonnet section

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14					15						16			
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65					66						67			

lookAHEAD

SUN SEPT 10

MON SEPT 11

TUE SEPT 12

WED SEPT 13

THU SEPT 14

FRI SEPT 15

SAT SEPT 16

mathNEWS disorganizational meeting
WUSA Welcome Week begins
Co-op postings open

Course reserves removed

Standing decisions and official grades are available in Quest

SUN SEPT 17

MON SEPT 18

TUE SEPT 19

WED SEPT 20

THU SEPT 21

FRI SEPT 22

SAT SEPT 23

mathNEWS 153.1 production night

Add period ends
Co-op applications for cycle #1 posting #1 due at 9 AM

Not Fees Arranged (NEA) holds applied

mathNEWS 153.1 releases
Course selection period begins
Co-op interview period begins

mathNEWS DISORGANIZATIONAL MEETING

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's 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 what-have-yous.

If you're interested in becoming a part of the hot mess that is **mathNEWS**, come out to our disorg meeting on September 11th at 6:30 PM in MC Comfy. There'll be posters around MC to remind you.

The Editors

THIS ISSUE'S gridSOLUTION

1	S	2	T	3	O	4	A	5	P	6	L	7	A	8	S	9	M	10	S	11	T	12	E	13	P																																																																																																																																																																																																			
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