

SYSTEMS DESIGN ENGINEERING

2023 CLASS PROFILE

Phase 1

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Foreword

Systems Design Engineering (SYDE) is a holistic multidisciplinary engineering program that focuses on systems theory and user-centric design through the lens of mechanical and electrical engineering fields. Offered by the University of Waterloo (UW), the curriculum is designed to expose students to a wide range of electromechanical engineering concepts applied to continuous cycles of design iterations, user testing, and user feedback, with the goal of developing technical skills and user design thinking applied to user focused design.

The SYDE 2023 cohort (hereinafter referred to as “the class”) experienced 8 academic terms and 6 technical co-op terms over 5 years together, with 95 students in the graduating cohort. The class started off with 100 people, gaining 6 new friends and losing 11.

Since its first inception in 2017, this class profile attempts to capture the thoughts, feelings, and lived experiences of the class from the beginning of 1A in Fall 2018, up until graduation in Spring 2023. This document seeks to extend previous SYDE class profiles and contributes to a broader view of the SYDE experience for the SYDE class of 2023.

Analyst's Note

67 of 95 (70.52%) students in SYDE 2023 were represented in this survey. Responses were collected between June 2023 - July 2023, meaning that data presented in this survey may no longer be completely accurate at the moment of reading. The majority of the questions in the questionnaire were optional. It should be stressed that the results of this profile may not extend beyond the experiences of the SYDE 2023 cohort. It may not be applicable to other SYDE cohorts and other university students. The majority of the profile seeks to represent the class as it was, however some analysis may make inferences to some events of the given time. This profile was conducted by students independent of the SYDE Department, the Faculty of Engineering, and the University of Waterloo.

The academic terms, denoted as '1A', 1B, ... '4B', refer to the year of study and the first or second term of that academic year. The co-op terms, denoted as 'Co-op 1', ... 'Co-op 6', refer to the nth co-op term. Both academic terms and co-op terms have a duration of 4 months. The SYDE co-op sequence follows the "Stream 4" pattern, in which study terms and co-op terms alternate after the first study term (1A), in which students begin their 1st Co-op placement until their last. Students then complete their final two academic terms, 4A and 4B, back to back.

Monetary values are expressed in Canadian dollars, converted at a rate of 1 USD = 1.3 CAD at the time of data collection.

Analyst's Personal Note

This is Phase 1 of the SYDE 2023 Class Profile. Phase 2 of the class profile is planned to contain additional responses to questions asked in the original questionnaire that were not present in this iteration. It is also planned to undergo a deeper analysis of the SYDE, and to an extent, the UW experience.

Continuation of this profile will be accessible at my website within the near future.

I hope you enjoy this edition of the class profile.

- Kha

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Demographics

“Who are you, and what do YOU want?” ~ Uncle Iroh



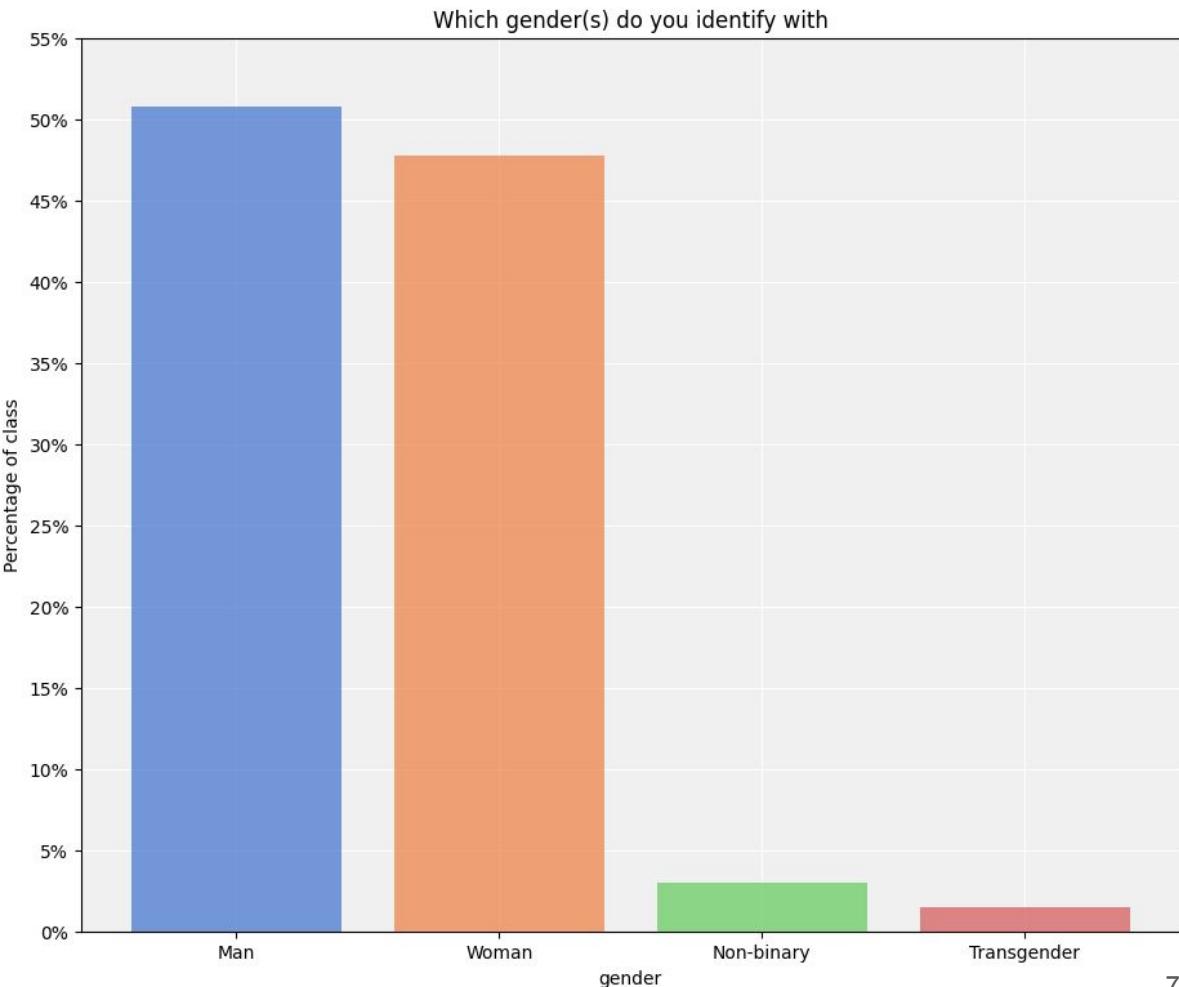
1A - FALL 2018

Gender

N = 67

47% of the class identified as a woman, landing SYDE to have one of the higher male:female ratios in UW ENG

In 2018, it was reported that 44.1% of the class in first year identified as a woman [1].

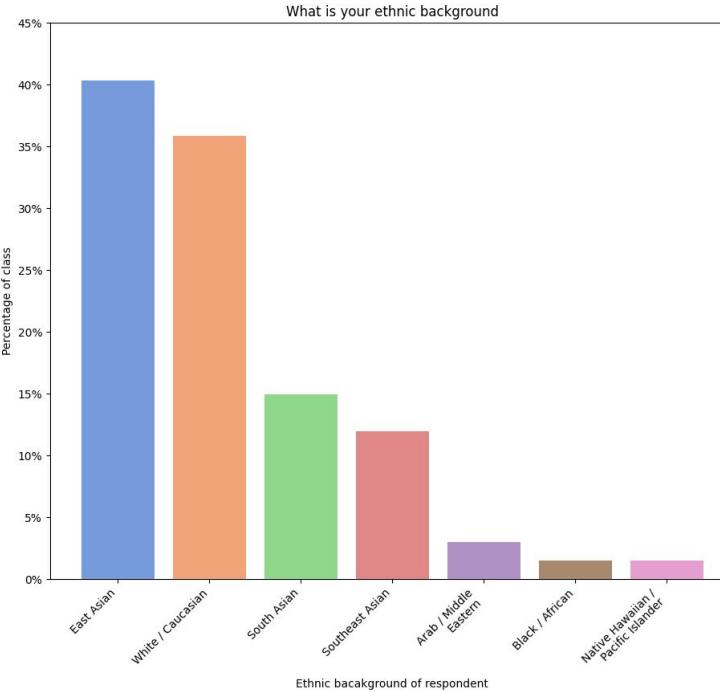


Race

N = 67

76% of the class have, or have families who have come to Canada within the past 2 generations, with 49% of the class identifying as Second-Generation Canadian.

The class can speak a variety of languages as well (and probably program in several too)



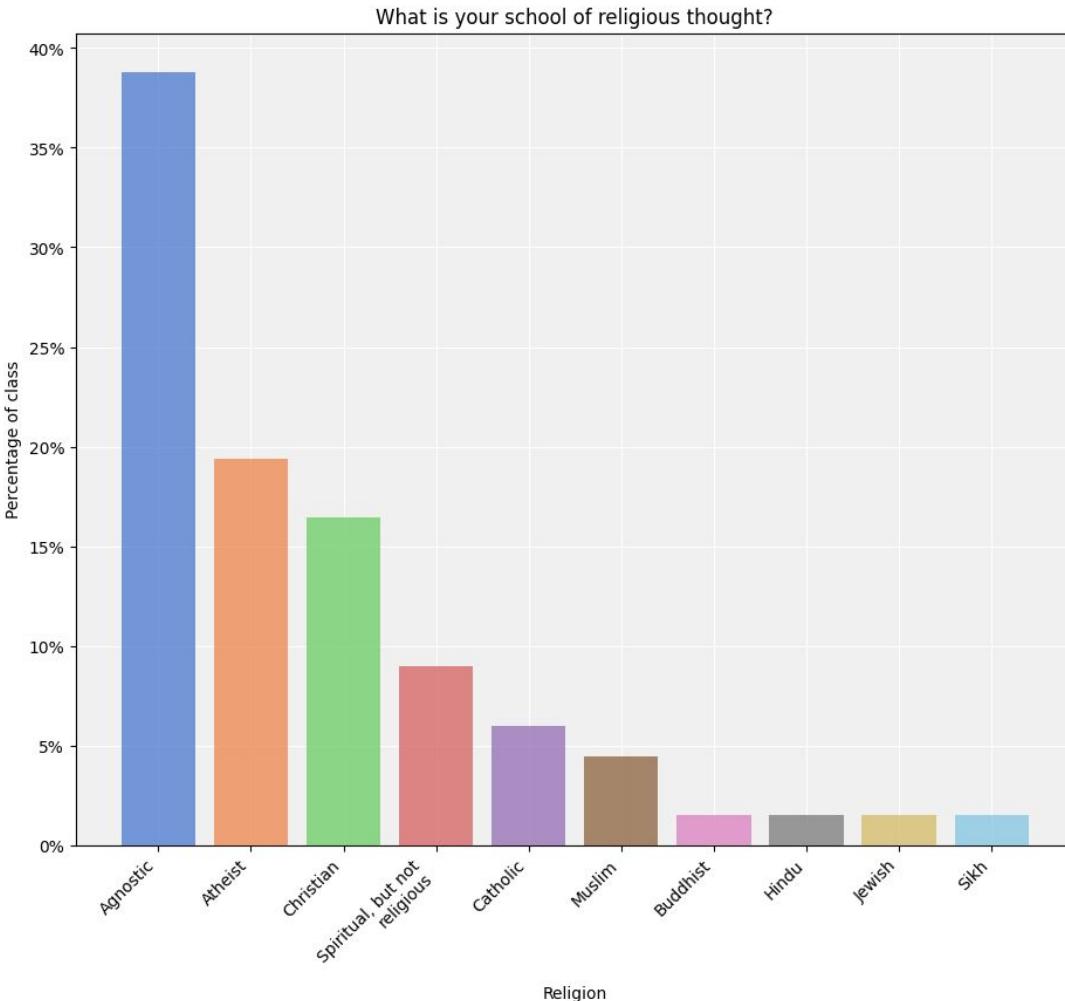
Korean Vietnamese
Tagalog Cantonese Urdu
Punjabi Arabic Gujarati Turkish
French
Mandarin
Bengali Tamil Hindi
Slovak Amharic Spanish Hebrew

Religion

N = 67

Agnostics made up the largest portion of the class. Students who identified with an organized religious school of thought tend to follow their parent's belief.

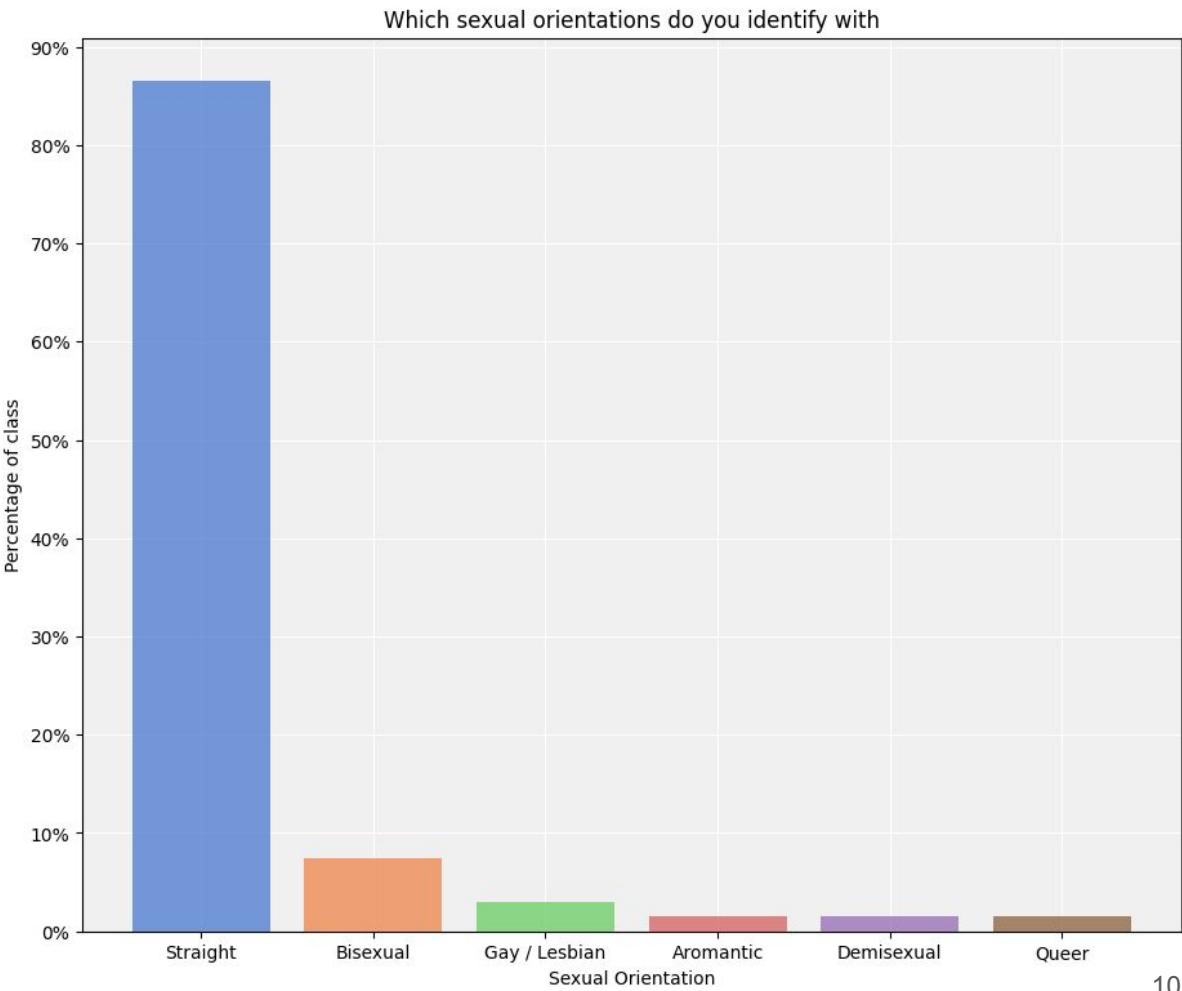
About half of students who identified as Agnostic or Atheist come from households where parents held one of the other religious beliefs



Sexual Orientation

N = 67

The majority of the class identifies as
Heterosexual

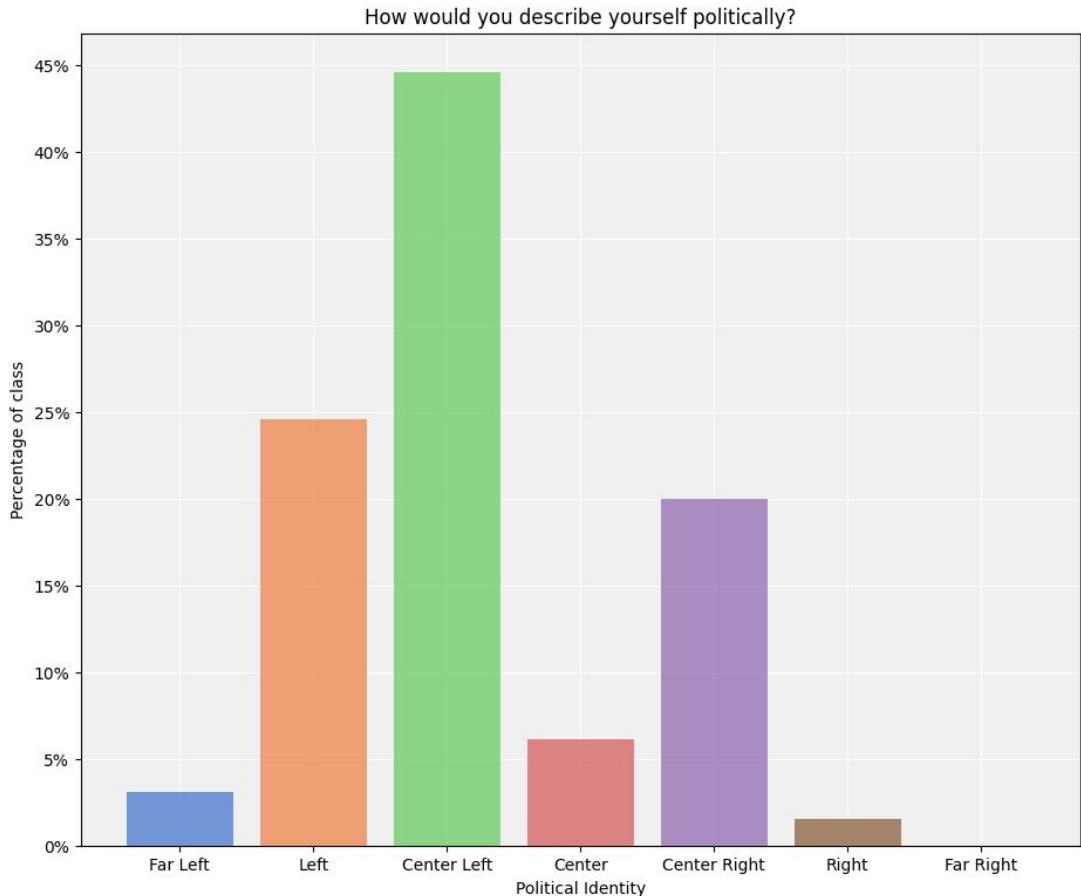


Left Right and Center

N = 65

The class leans Center Left. Within the Center Left and Center Right groups, these students hail from families with mixed politics views - almost half of these two groups come from families with left leaning views, and almost half from families with right leaning views.

Questions regarding specific political beliefs were not asked, specific issue voting intentions cannot be drawn from this chart.

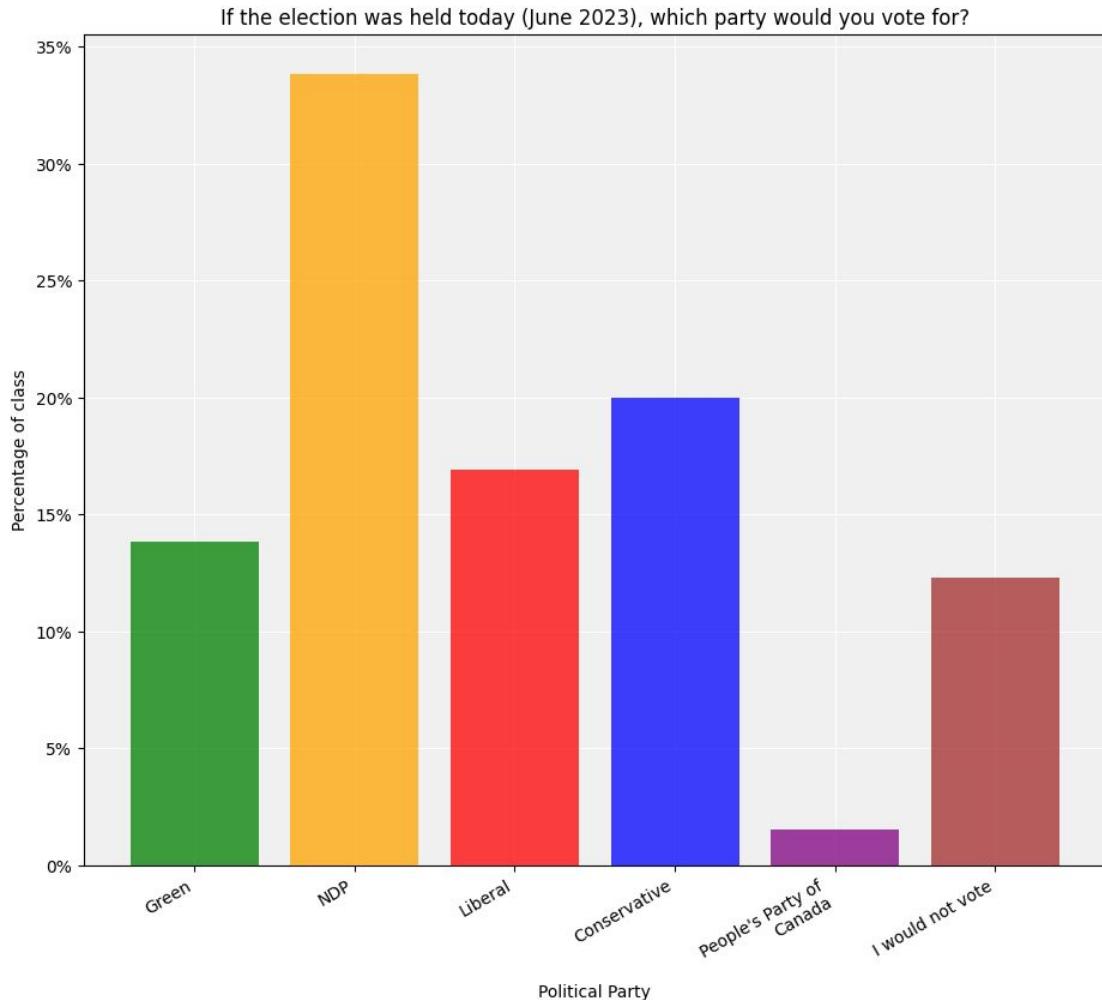


Canadian Politics

N = 64

The Centre Left vote was roughly split between the NDPs and the Liberals, while the Left's votes were split between the Greens and the NDPs. Center Right's voting block mostly stuck with the Conservatives on the ballot.

A 2023 poll from Abacus Data describes that Conservatives have the largest share of the Gen Z vote, with the NDP coming in second [2]



Birthplace

The class was born from around the world, most of which in Southern Ontario



Hometowns

N = 65

The class didn't stray too far from home, with a majority of the class considering the Greater Toronto Area as their hometown. Hometowns of interest are shown below

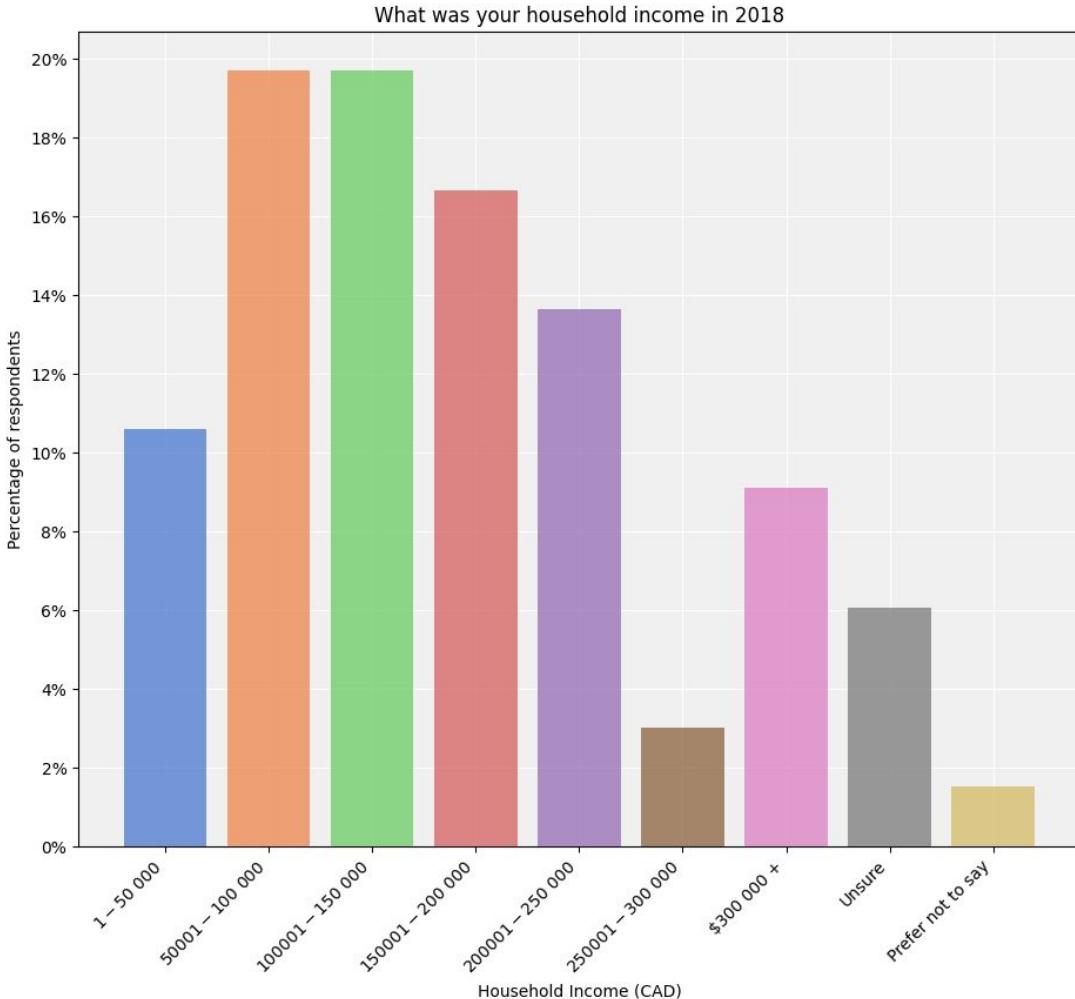
Toronto - 18%
Mississauga - 12%
Markham - 11%
Waterloo - 6%
Vancouver - 6%
Brampton - 5%
Vaughan - 5%



Household Income

In 2015, the median Canadian household income before-tax was \$96K, and \$105K in 2020 [3].

The class comes from a wealthy background compared to the average Canadian.

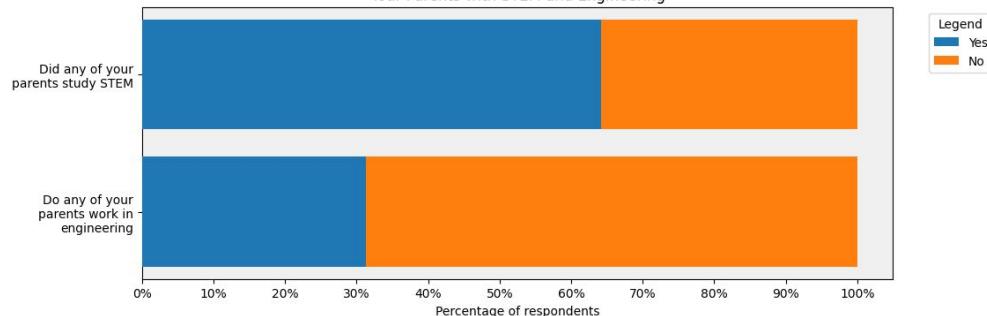
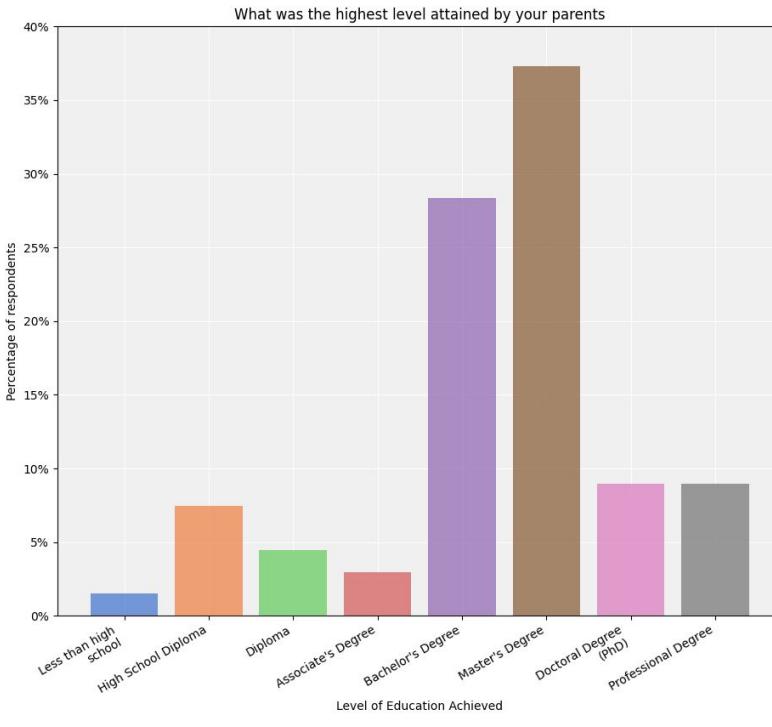


Education runs in the family

N = 67

The class mostly came from educated families, with about 75% of the class' parents having at least a Bachelor's degree, with 65% of the class having one parent who obtained a STEM degree.

The number of Canadians who hold a Bachelor's degree currently sits at about 33%, an increase of around 20% from two decades ago [4] [5].



The Land Before SYDE

a.k.a. high school



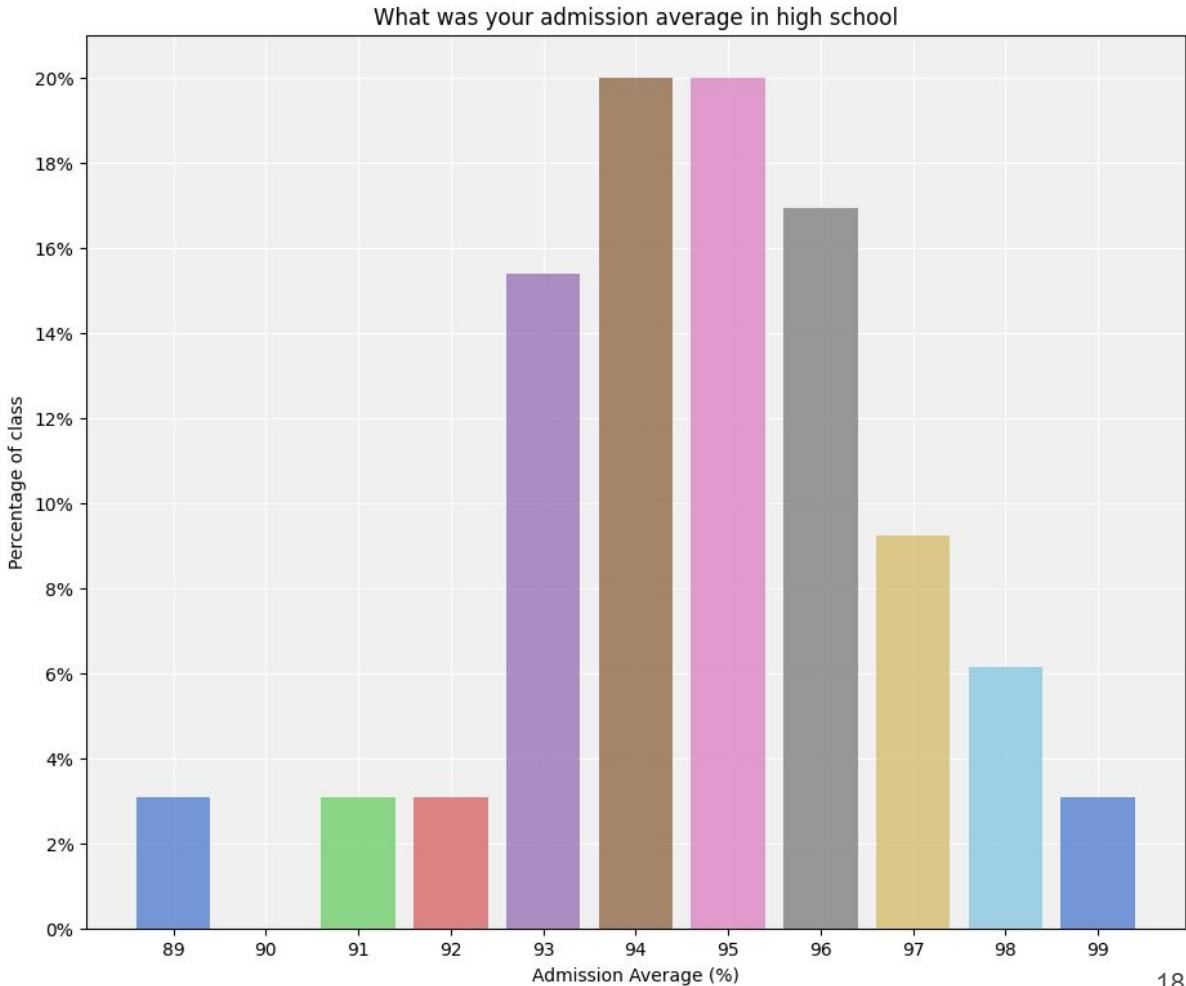
1B - SPRING 2019

Admission Averages

N = 65

Mean = 94.83%

During the 2018 application cycle, SYDE was classified as a “Tier 3” program, classified without its current “Tier 2” programs (Computer, Electrical, Mechanical, and Mechatronics). SYDE was then classified as a “Tier 2” program for the 2019 application cycle after the class started our 1A term. It is speculated that the first 2 iterations of the class profile contributed to the increased average threshold of admission averages by introducing more applicants to SYDE [6]

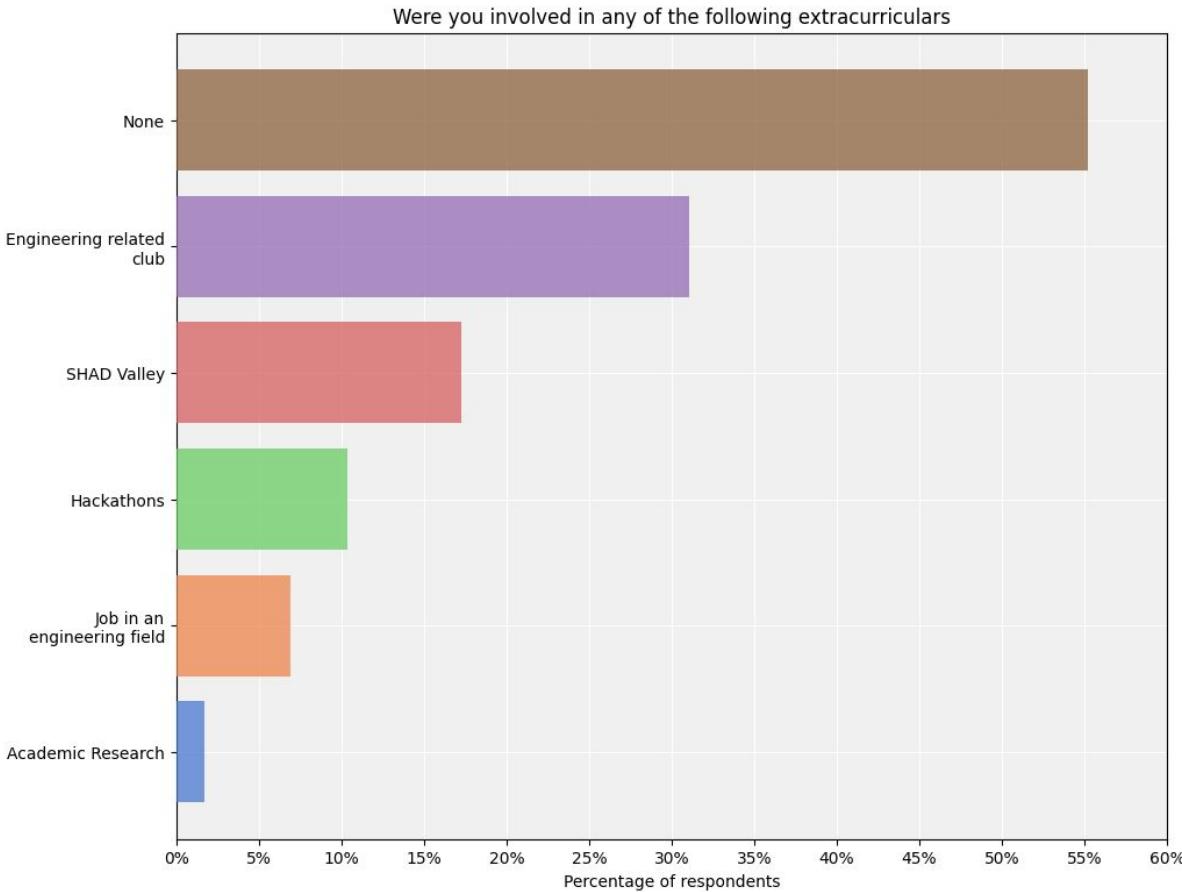


Keeners++

N = 58

30% of the class participated in an engineering related extracurricular during undergrad. 17% of the class participated in SHAD Valley, formally directed by Ed Jernigan, former chair of SYDE.

55% of the class had a part time job prior to coming to UW, something the late Pearl Sullivan, former Dean of Engineering, strongly suggested we get prior to entering UW ENG

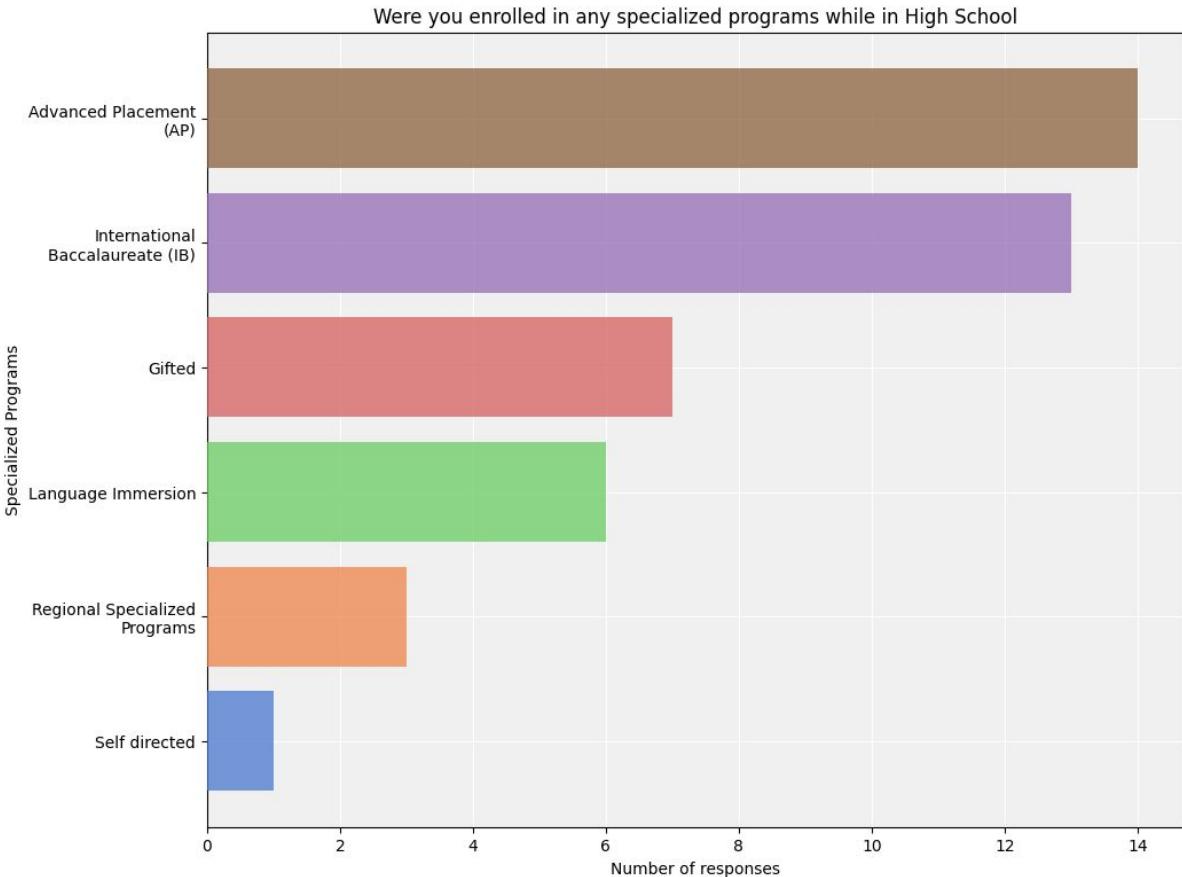


Nerds++

N = 40

The class enrolled in the IB and AP programs at 32.5% and 35% respectfully. Students may have taken a combination of multiple specialized programs.

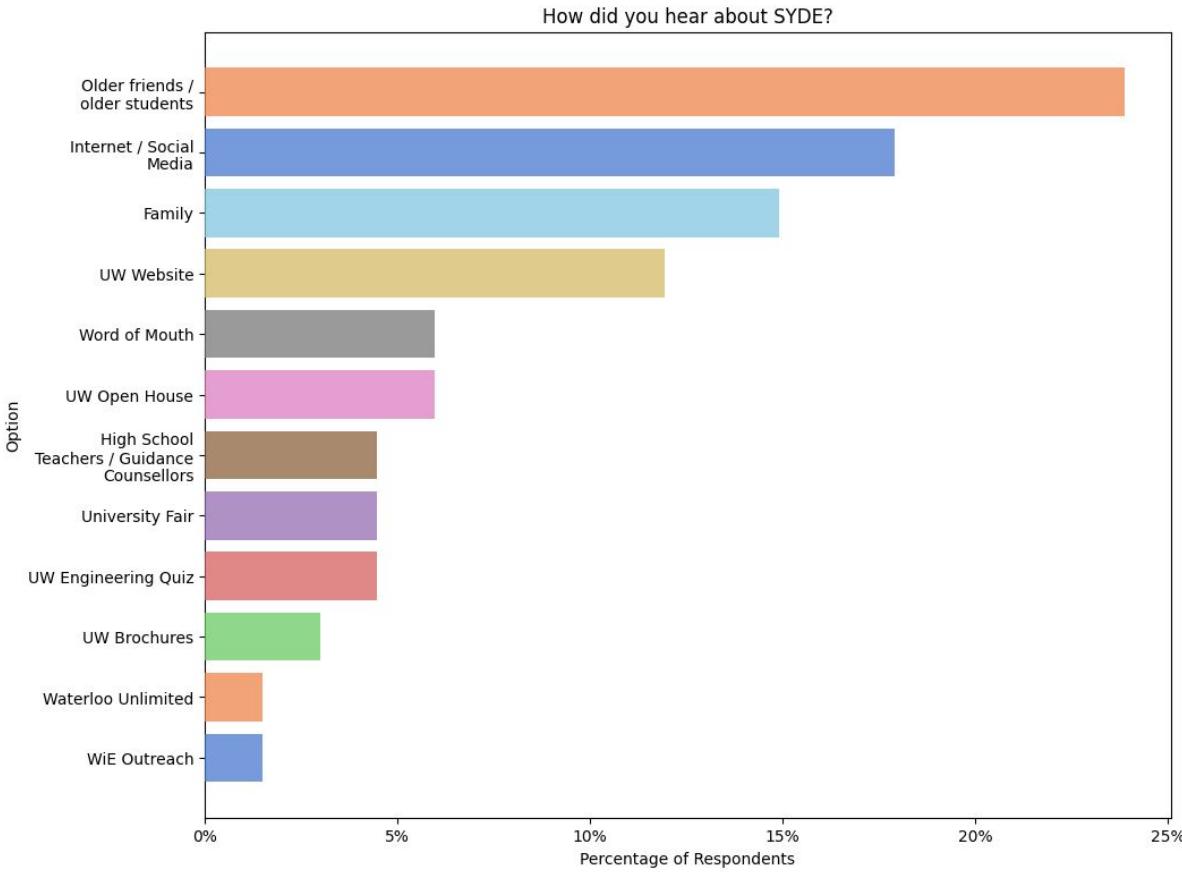
It should be noted that completion of the IB diploma programme in Canada decreases the adjustment factor UW Eng uses by about 2 - 3 points, giving better odds for the applicant [7]



How did you hear about SYDE

N = 67

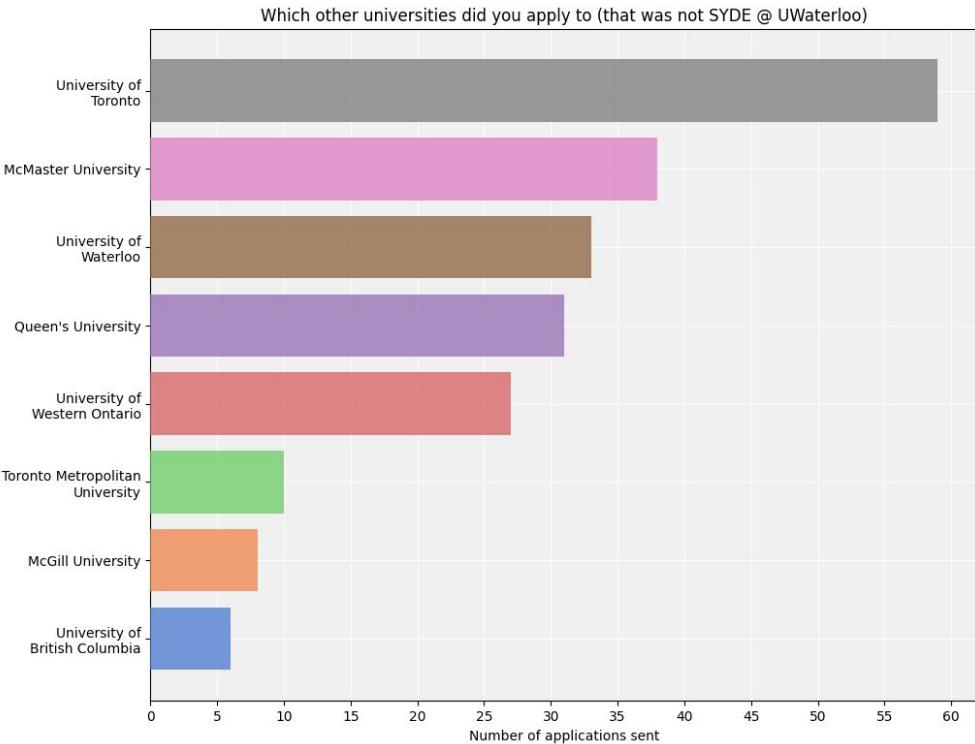
The top 3 avenues in which the class heard about SYDE, were through older friends, online, and through family.



Other universities

The alternate choice for school would have been UofT, with 59 distinct applications sent, with McMaster in a distant second. The class was also willing to give UW another chance outside of engineering.

These were the top 8 universities that the class applied to



Other programs

N = 61

The top schools + programs applied to by the class are shown, with the majority of the class stuck close to engineering when applying for university.

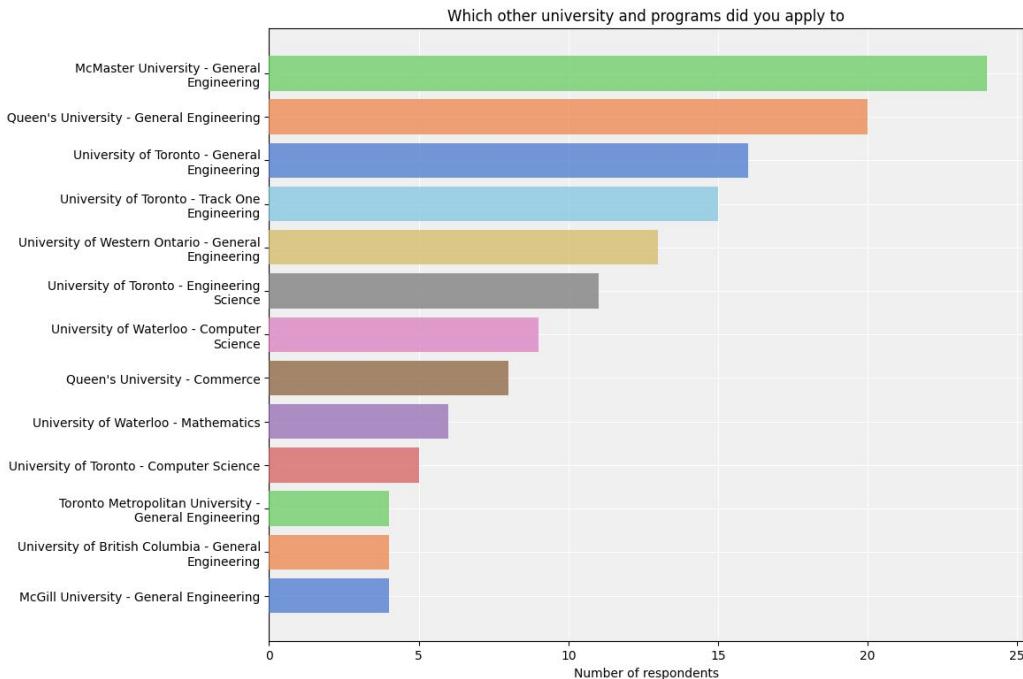
Out of 49 responses, the class listed the following UW ENG programs as their alternate choice on the AIF

Management: 22%

Mechatronics: 20%

Computer: 16%

5 people in the class were deferred into SYDE, all of whom applied for UW Biomedical Engineering

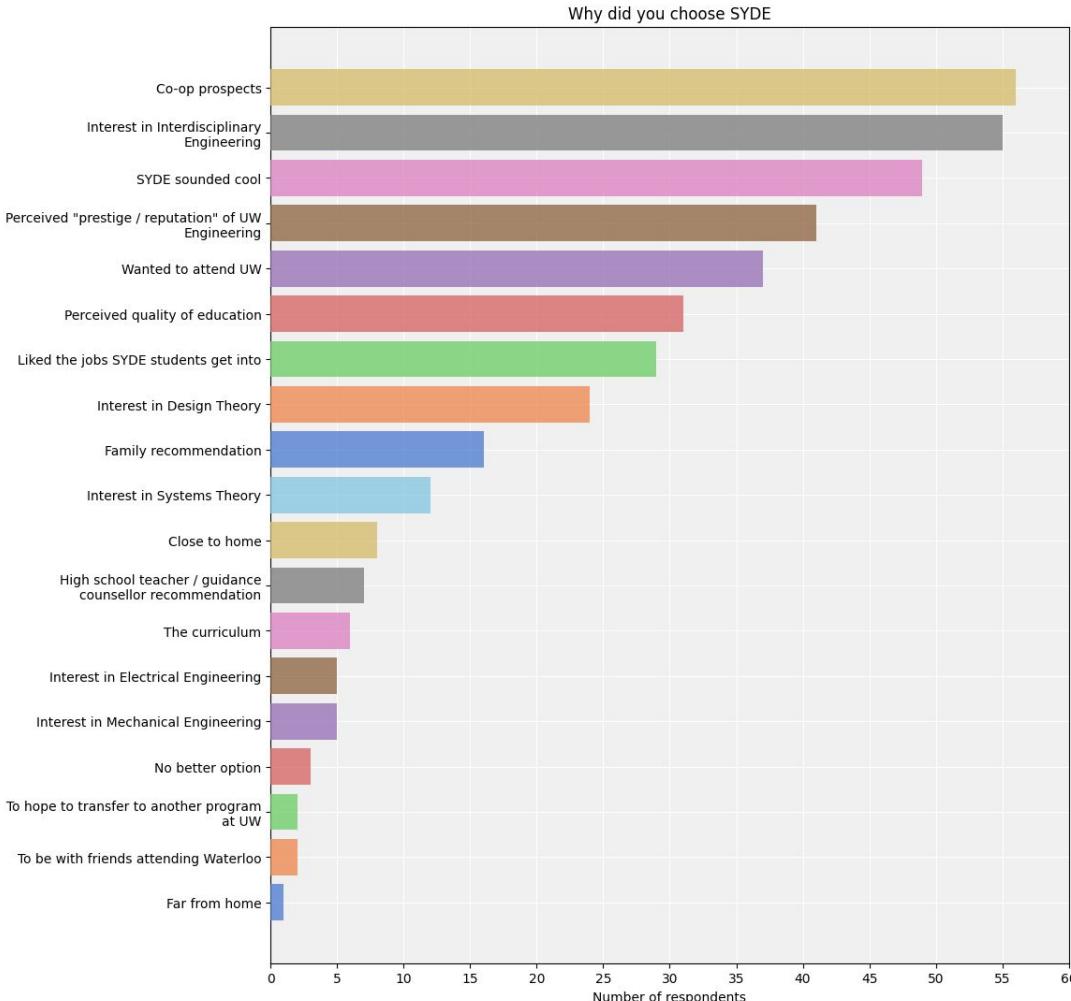


With the exception of UofT Track One and EngSci, individual engineering programs were aggregated to display as General Engineering. If we aggregated all UofT Engineering applications, it would have a bar value of 42. Software Engineering was also grouped into General Engineering. UofT CS contains all CS programs from its satellite campuses.

Why SYDE?

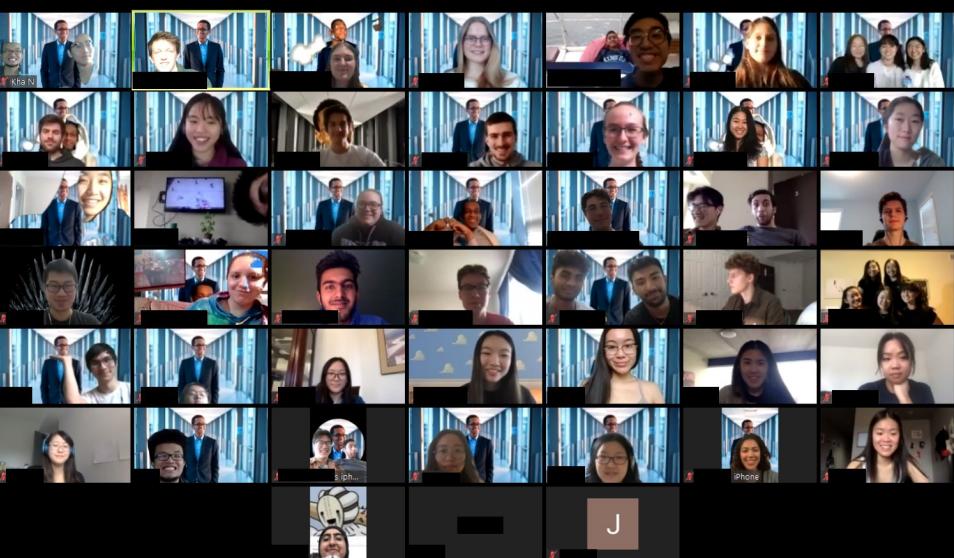
N = 67

Co-op prospects were what most attracted the class to SYDE (arguably ENG at UW). Interest in interdisciplinary engineering was also listed as a significant factor (however the interest of both electrical and mechanical engineering is rather low). Outside of co-op prospects, Design Theory may have been the standout cause that is distinctly special about the SYDE program



Academics

check the undergrad
calendar and consult your
undergrad advisor



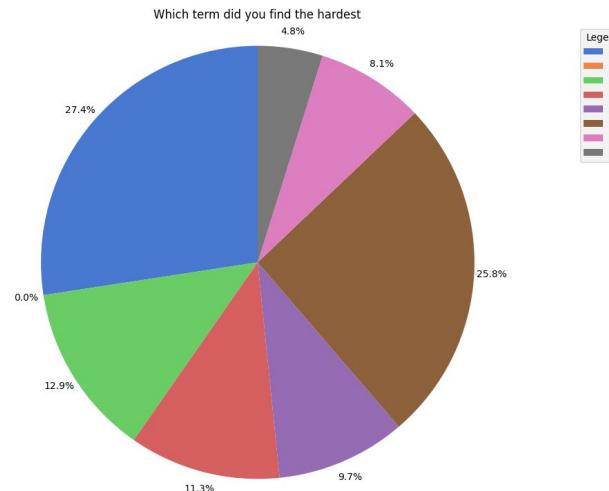
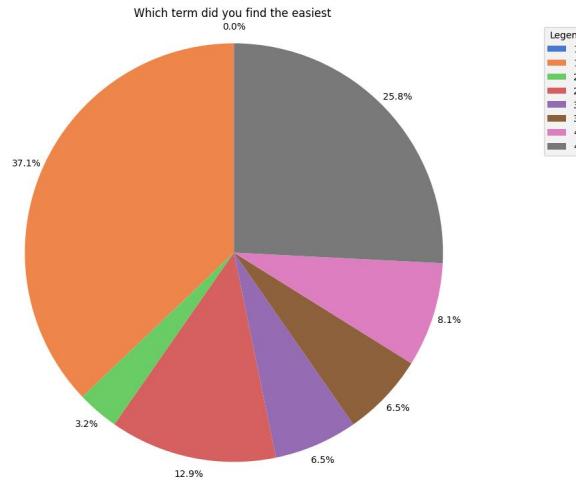
2A - WINTER 2020

Term Difficulty

N = 62

1B and 4B were considered to be the easiest terms. Introductory courses and a summer term may have made 1B pleasant, while your choice of Technical Electives allowed for the class to choose courses they are genuinely interested in.

1A and 3B were considered to be the hardest. In both cases, adjustments from high school to university, and online to in-person learning may have made it difficult

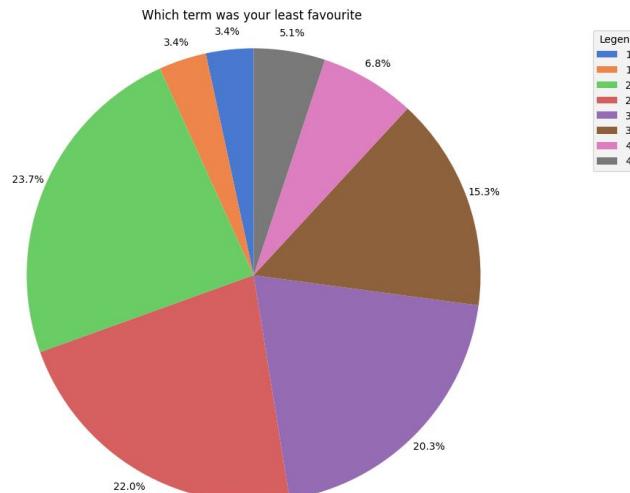
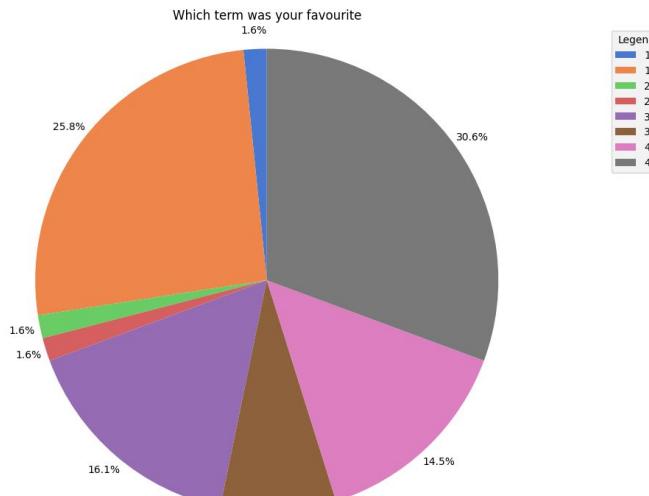


Favourite School Terms

N = 59

Similarly, 1B and 4B were considered to be the class' favourite terms. Grad related events also happened in 4B that may have made it more enjoyable.

All online (or partially online) terms (2A, 2B, 3A, 3B) were cited to be the class' least favourites, likely due to the social experience of university taken away from us



Favourite Core Course

N = 61

Favourite core courses include

SYDE 101L (Solidworks) - 22%

SYDE 223 (Data Structures) - 17%

SYDE 162 (Human Factors) - 13%

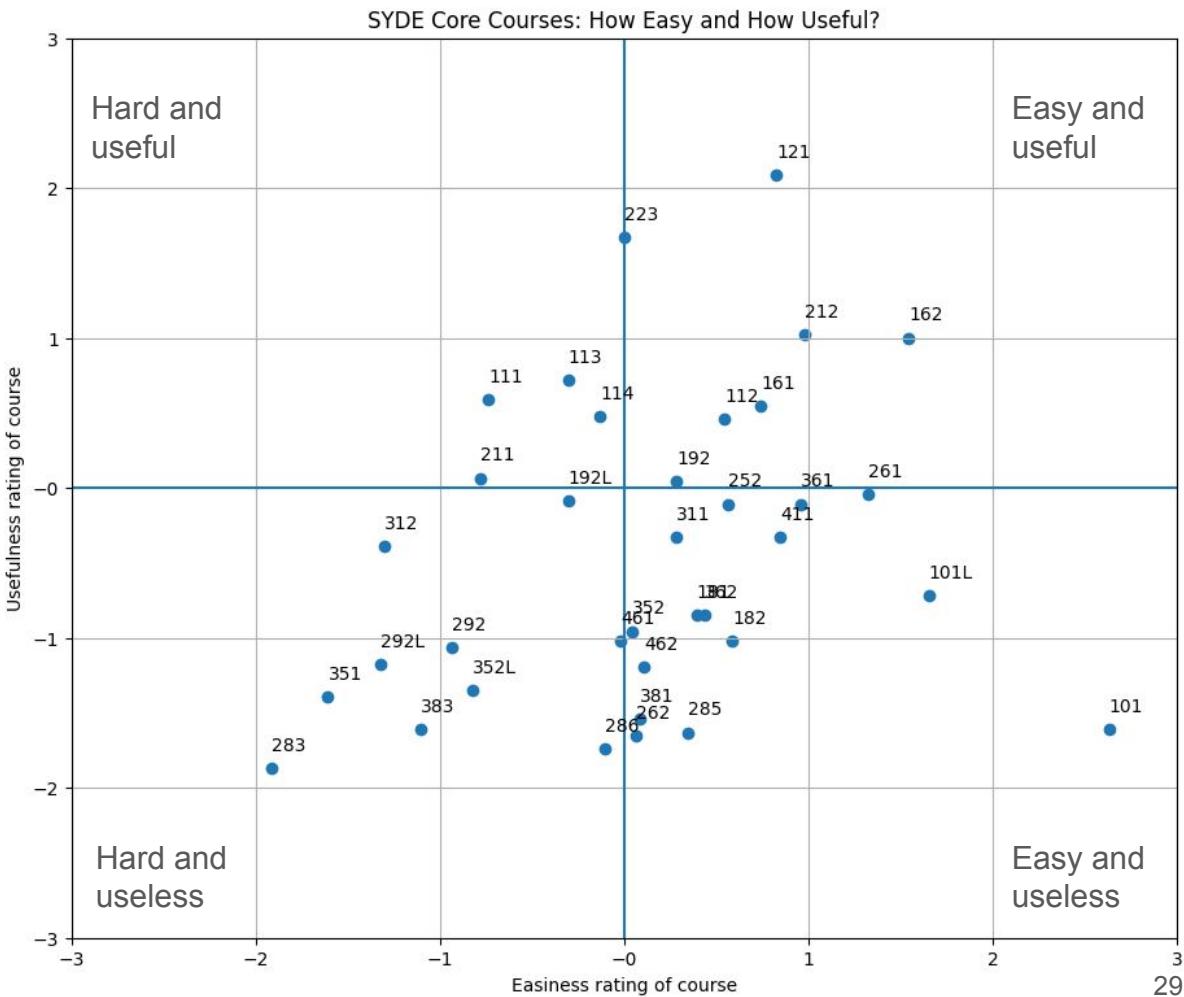
SYDE 101L made assignments to 3D model things you liked in Solidworks, while 162 and 223 may be closely linked to the class' technical interests



Core Course Matrix

An interesting thing to note is that the majority of courses deemed useful, were math based courses taken in 1A and 1B. Courses deemed useful consists of Data Structures (223), Human Factors (162), and Stats (212).

It should also be noted that almost ALL traditional engineering courses were listed as not useful. It is possible that online courses during COVID impacted its overall perceived usefulness, or that the software-majority class decided to stick with software development and not needing these types of courses. Lower year math courses may have been considered “useful” solely to pass upper year core and elective courses



Least favourite Core

N = 62

The most disliked core courses consists of

SYDE 351 (Systems Models): 23%

SYDE 283 (Elec & Mag): 18%

SYDE 262 (Eng. Econ.): 15%

SYDE 461 (FYDP 1): 7%

SYDE 312 (Lin Alg 2): 7%

Feedback from the class suggests that the courses above were difficult and useless, or the course was poorly executed



Complementary Studies Electives

N = 55

The class took a wide range of CSEs.
Notable ones include

CLAS 104
MUSIC 140
BET 350
ECON 101
MUSIC 246
PSYCH 101
BET 100



Technical Electives

N = 55

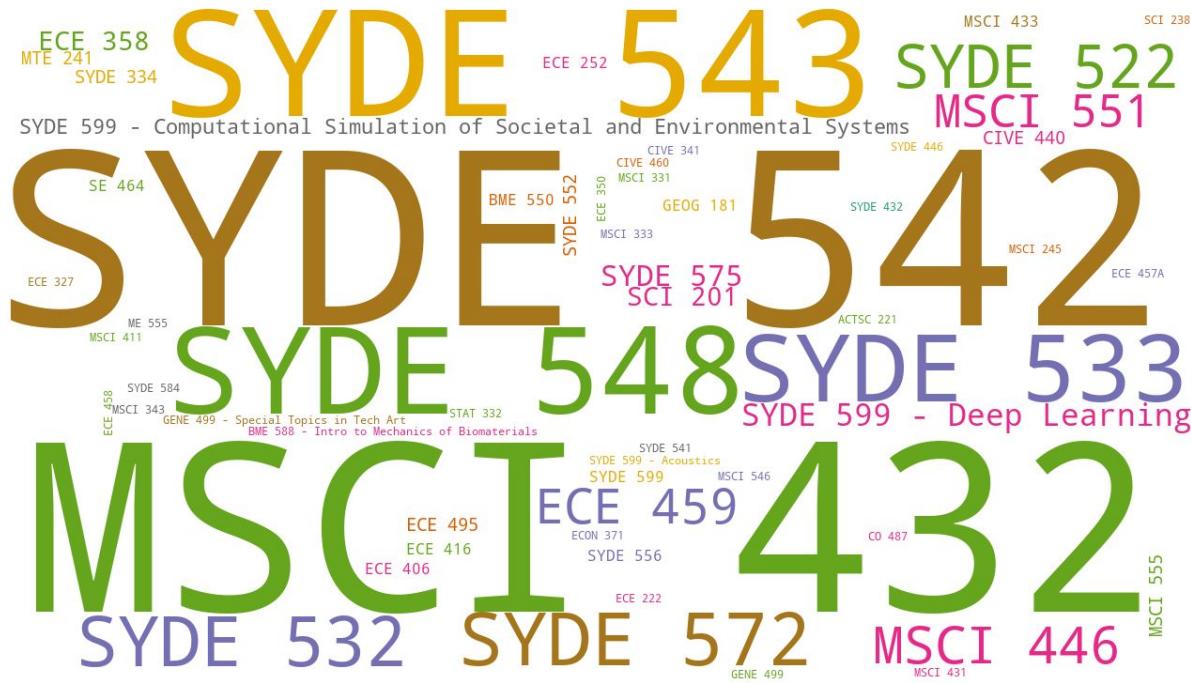
The majority of Technical Electives taken by the class were from the SYDE department or the MSCI department.

Common TEs include:

- SYDE 542 (Interface Design)
- MSCI 432 (Prod. Serv. Op. Mgmt)
- SYDE 543 (Cognitive Ergonomics)
- SYDE 548 (User Centered Design)
- SYDE 533 (Conflict Resolution)
- SYDE 572 (Pattern Recognition)
- SYDE 532 (Complex Systems)
- SYDE 522 (Artificial Intelligence)
- MSCI 446 (Machine Learning)
- ECE 459 (Programming for Performance)

Notable favourite TEs include

SYDE 543 (Cognitive Ergonomics): 19%
SYDE 532 (Complex Systems): 12%
SYDE 543 (Interface Design): 9%

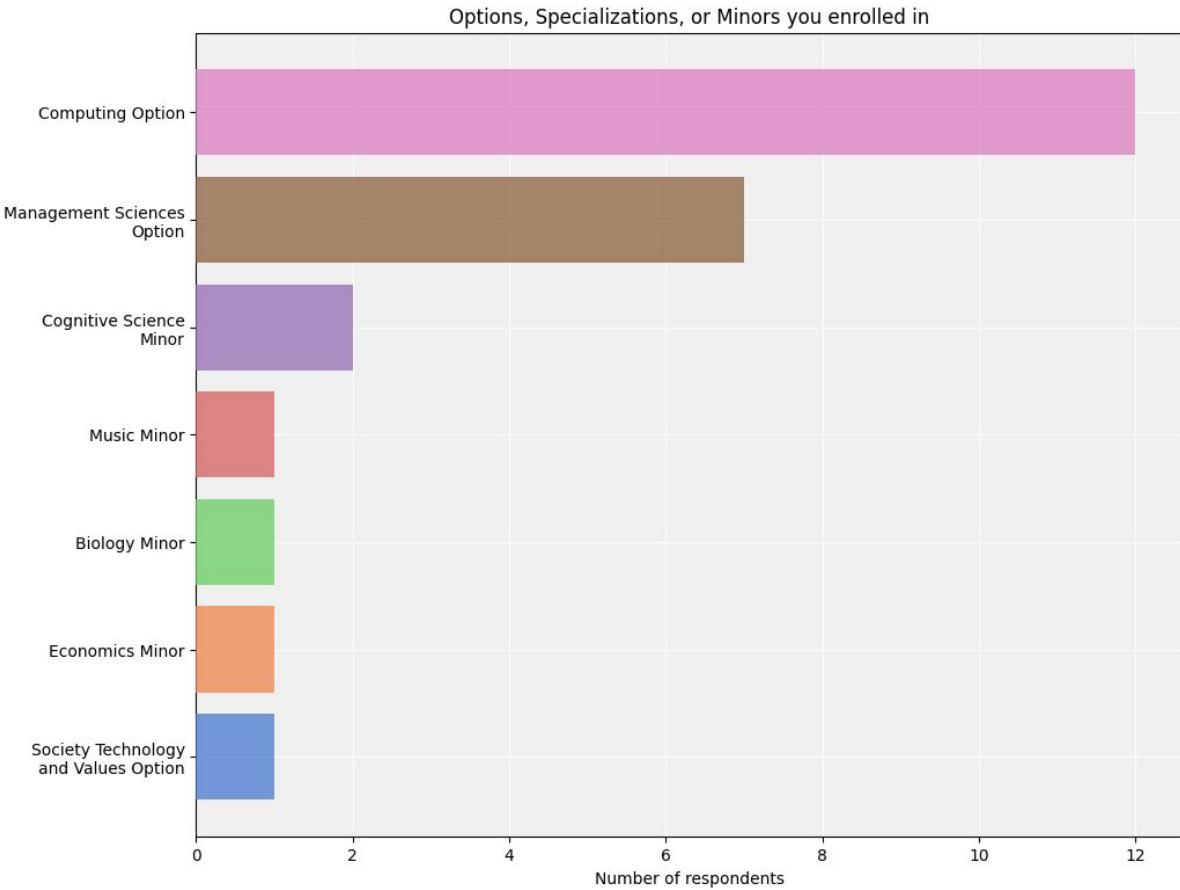


Options, Specializations, and Minors

N = 20

20 students completed either a Minor or an Option.

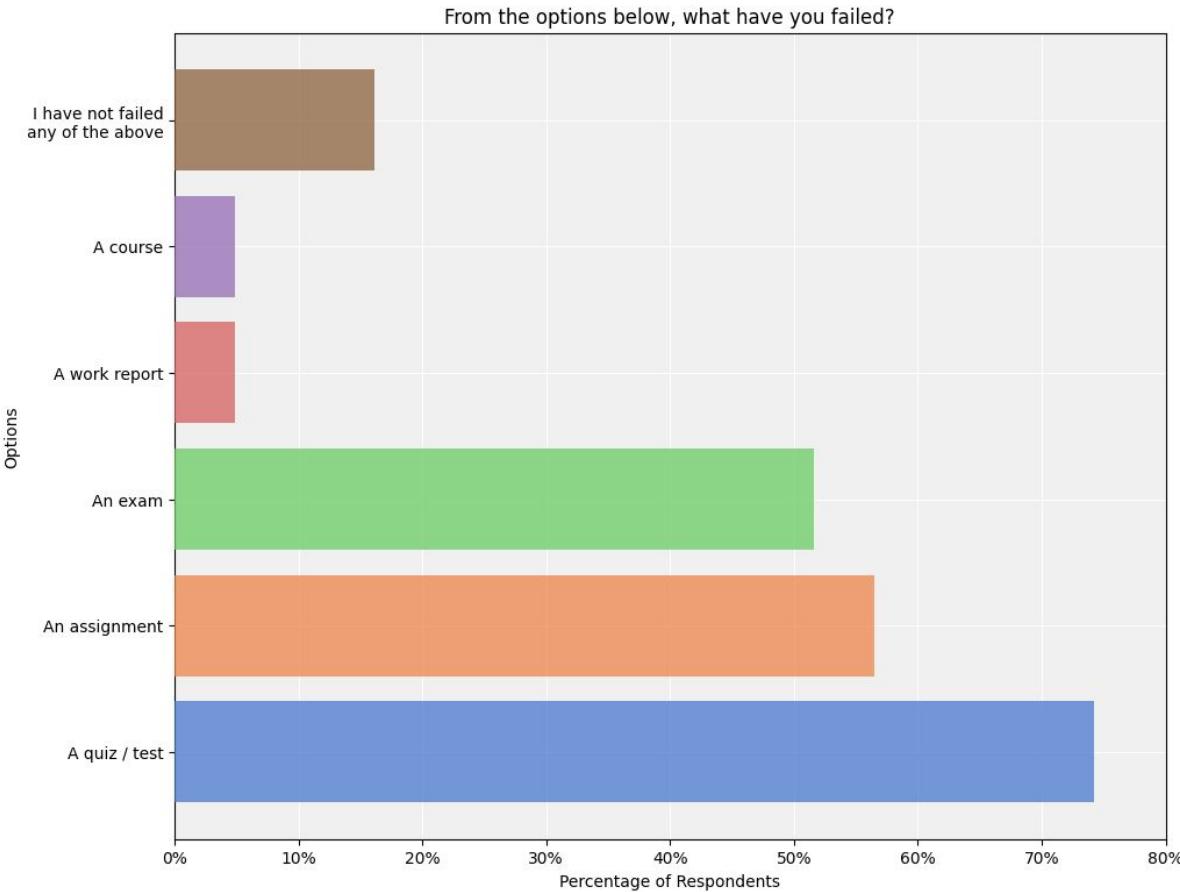
The Management Sciences and the Computing Options were relatively easy for a SYDE student to obtain, since the courses overlap with the SYDE program, allowing for less course space to be taken up by option requirements.



F (uh oh)

N = 62

More than half the class has failed a component of a course, which is completely different from where they may have been in high school.



GPAs

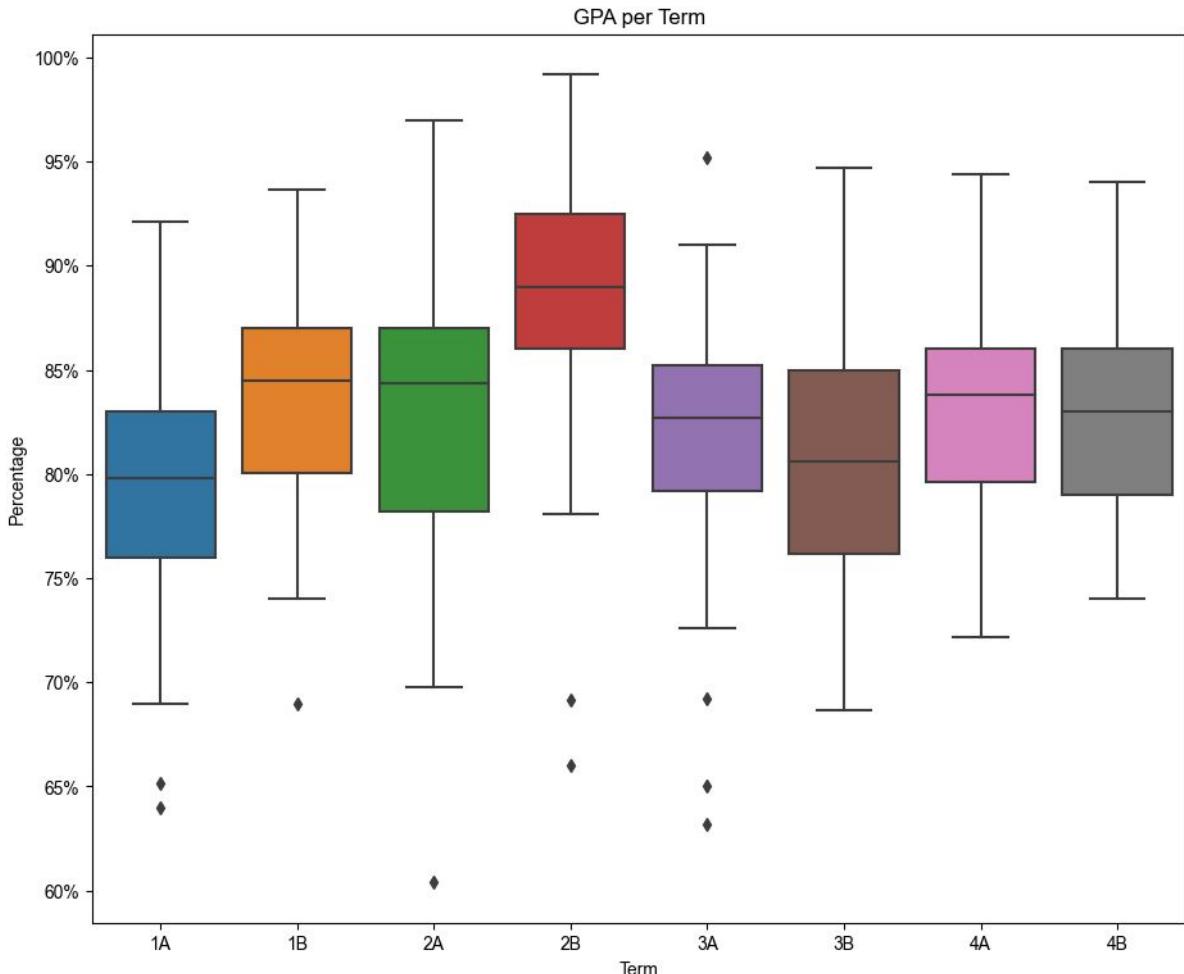
N = 40

GPA tended to average above 80% each term

From the official UW ENG Undergrad histograms, term medians are as follows:

	Self Reported	UW Histograms
1A:	79.16	75.64
1B:	83.60	81.00
2A:	82.66	81.60
2B:	88.31	88.12
3A:	81.84	79.40
3B:	80.92	78.77
4A:	83.08	81.60
4B:	83.03	82.80

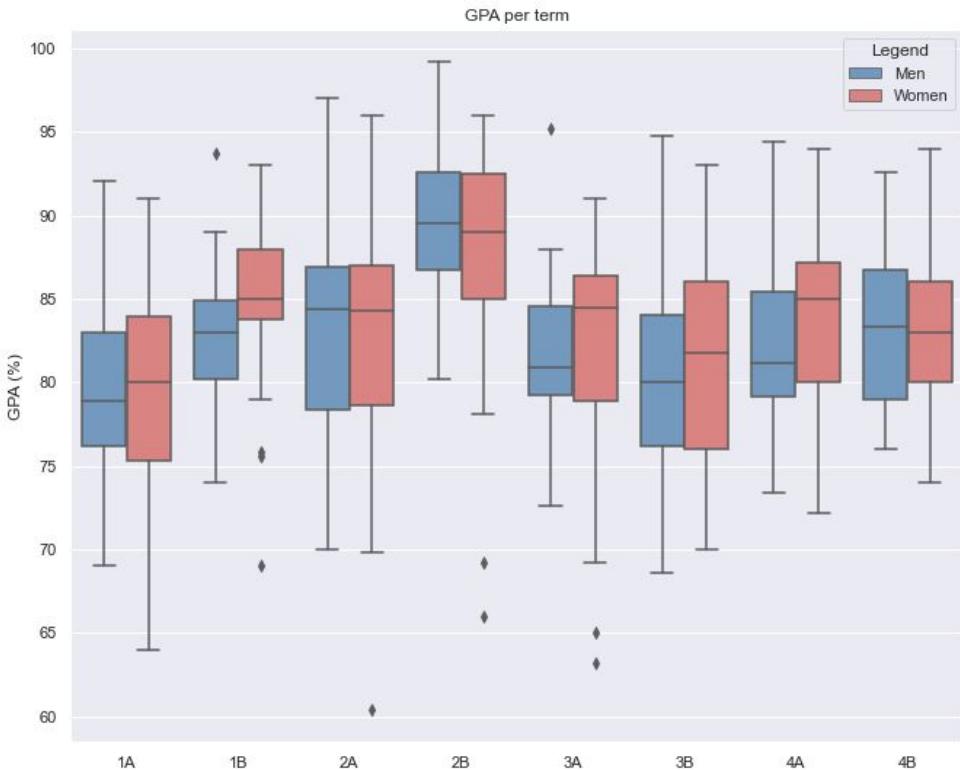
The discrepancy between reported and official may be the result of selection bias



GPAs

On a visual scale, women tend to score slightly higher than men based on GPA medians per term. However, this is likely statistically insignificant.

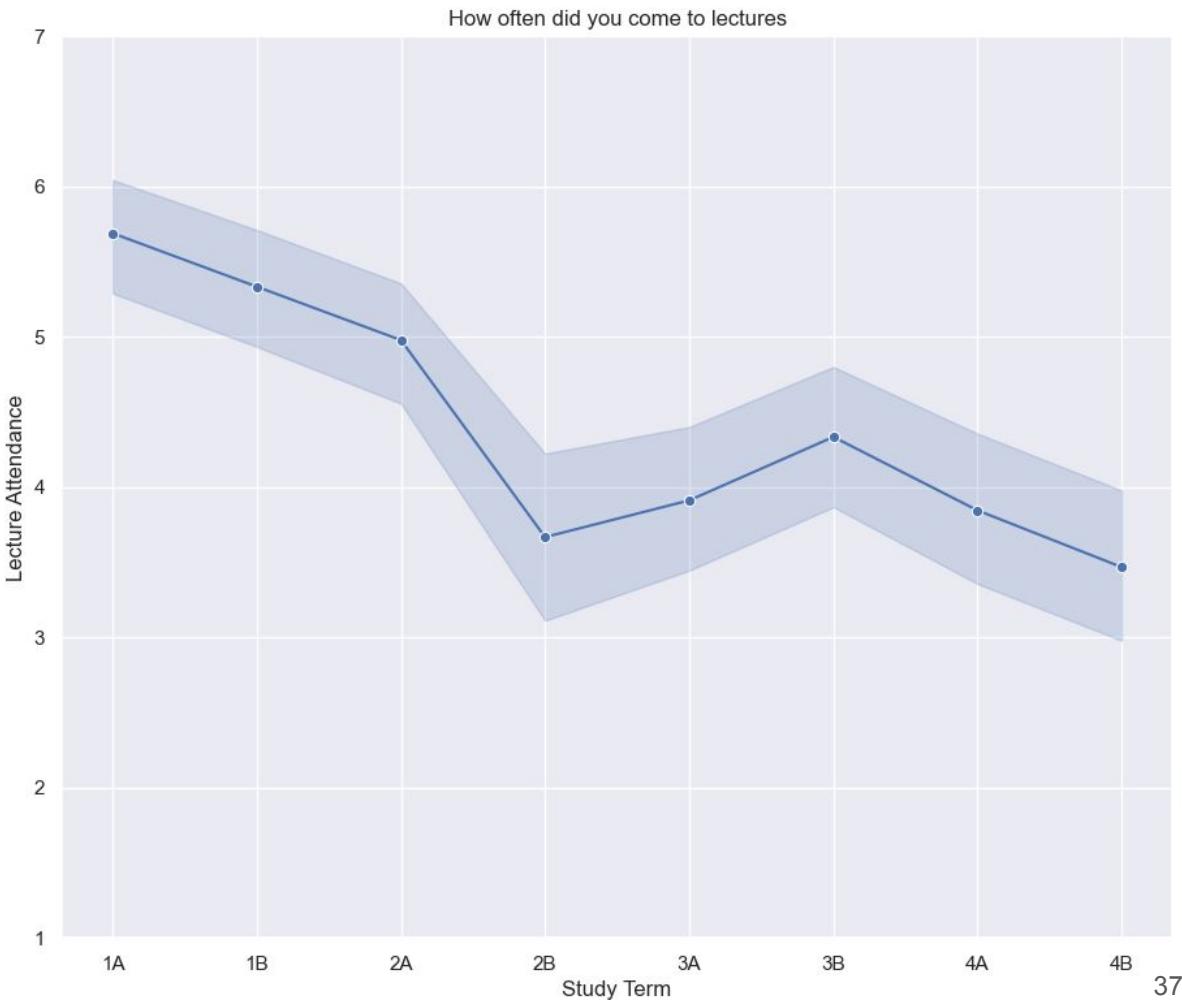
More details may be posted in Phase 2 of the profile



Lecture Attendance

N = 41

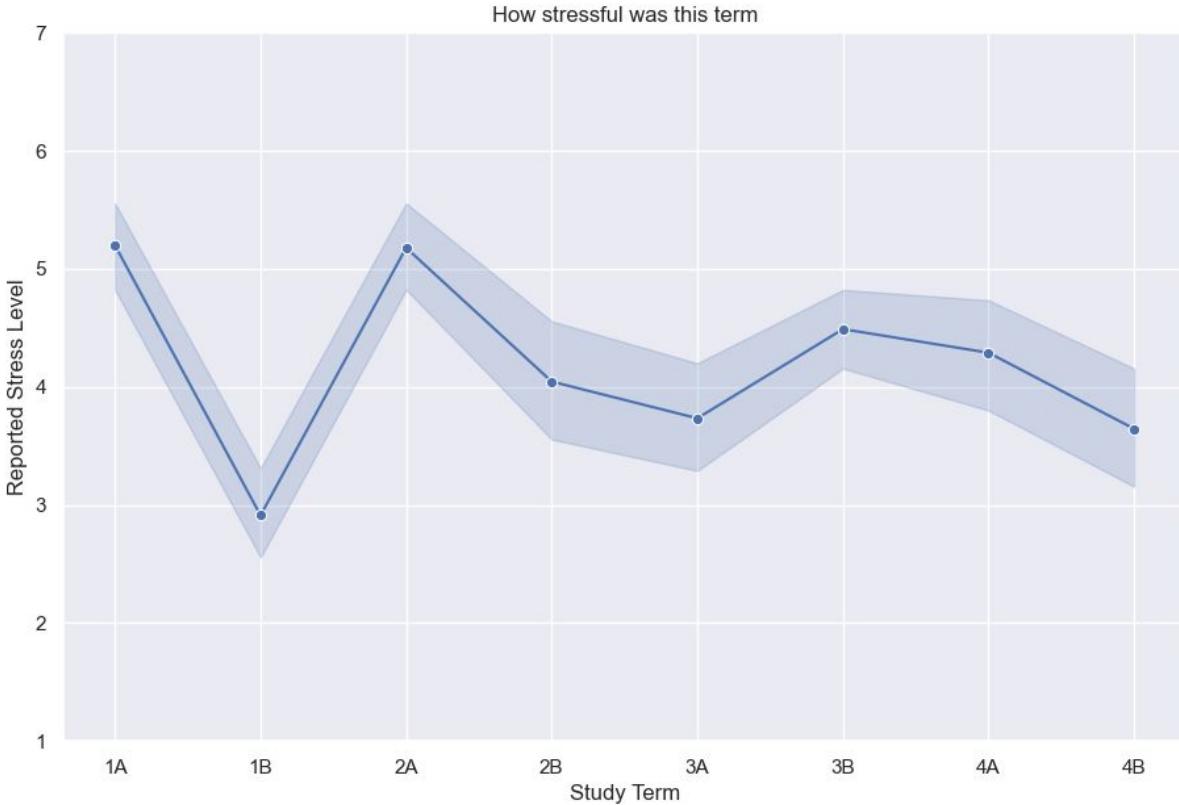
As the years went on, lecture attendance decreased. The increase in 3A may be the result of live lectures in SYDE 381 and SYDE 383, while the local maximum at 3B was the result of SYDE 352 not posting in-class lecture notes



Stress Levels

N = 41

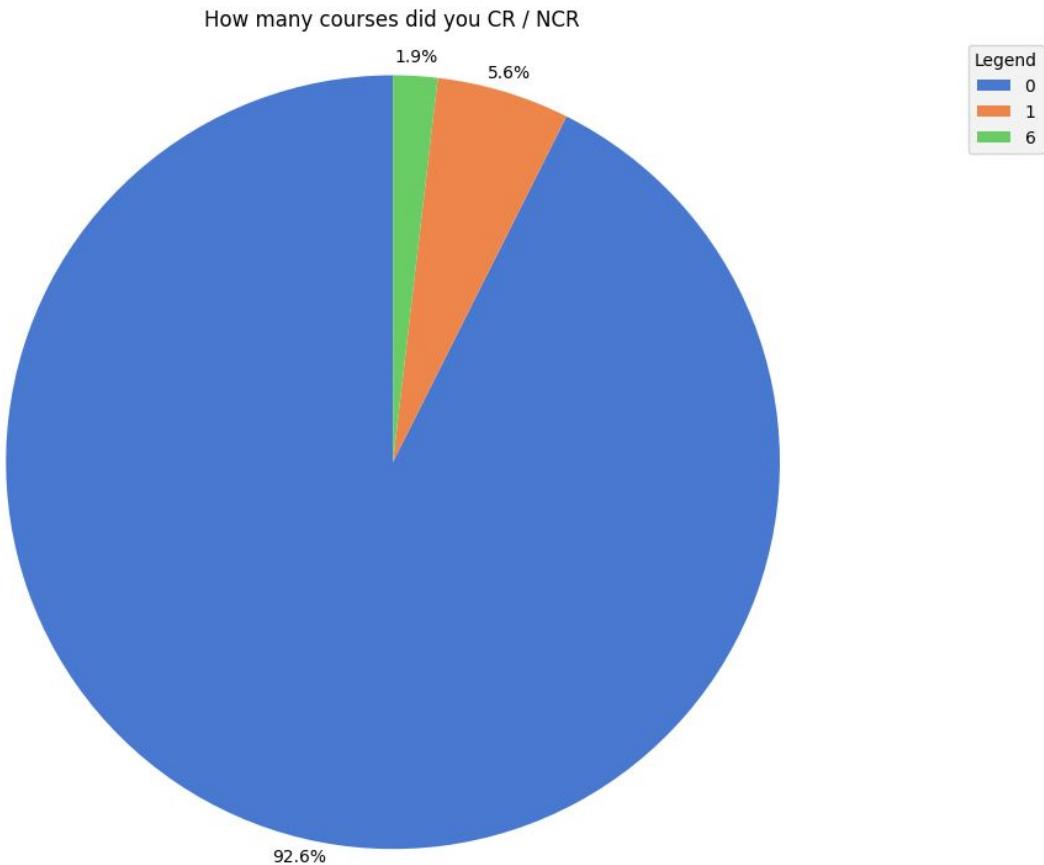
Stress levels hovered at around
'average' reported levels of stress



To CR, or NCR

N = 54

Credit / Non-Credit was given as an option in 2A to replace the numerical course grade, when in-person school first moved online in the middle of the term in March of 2020.



Favourite Professors

N = 55

The class had many professors they enjoyed learning from, across multiple departments and programs.

In the Fall of 2020, the SYDE department lost Professor Igor Ivkovic, who was a pillar for all members in the SYDE community. Igor had a lasting impact on all of us here in the class, and we were all saddened by his unexpected passing. We hope that Igor's legacy of kindness lives on. 42.



Exchange

N = 62

55% applied for exchange

20 people had their exchanges cancelled due to COVID

Out of 6 people who went on exchange

4 went to Universidad Carlos III de Madrid in Spain

2 went to Ecole Polytechnique Federale de Lausanne in Switzerland

All of whom would recommend going on exchange



“Exchange was one of the highlights of my undergrad, it taught me a lot about myself and about life and people in another country”

“Experience of a lifetime (cliche but true), to make friends from around the world, to meet people from all sorts of different backgrounds, experience life in another country, to be able to travel around”

“It's totally worth it! Try to put yourself out there and try new things. Europe is great because travel is so accessible”

What did you wish you knew before starting undergrad

“That everyone is just trying their best and no one really have it figured out.”

“They tell you a lot that you're all really smart, but that you're going to be surrounded by people who were all at your level in high school, and to not feel bad or unworthy when/if your grade or position drops. That doesn't prepare you for the feeling of things suddenly becoming hard, to suddenly feel like you're not good enough because school was easy before, and now you're fighting just to pull together a passing grade. It's ok to struggle. It's ok that high school didn't teach you all the skills you needed, there's still time to learn. Things take different amounts of time for everyone, and you should be kinder to yourself.”

“be more confident... you're not an imposter, you're just as smart and capable as anyone else!”

“Sex”

“Girls want love as much as boys do.”

“That nobody actually really cares who you are or how dumb you may look doing what you love, so find people to be dumb with earlier cause they're more fun to be around”

“Getting regular and full sleep is the best kind of studying!”

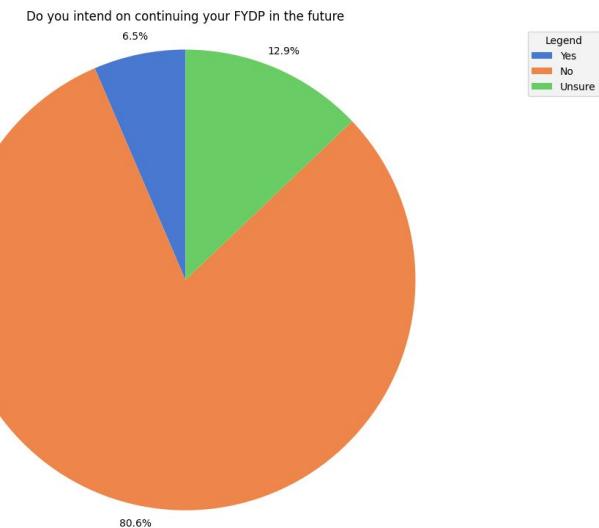
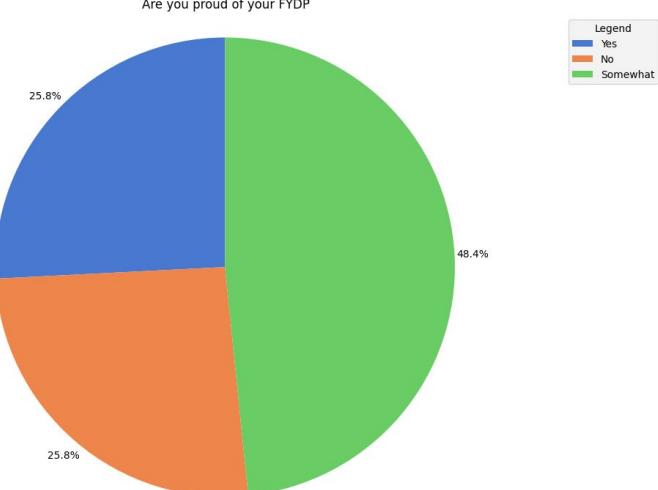
“Your biggest gains from these years are the people you've met and the life experiences you've built, not the grades you stressed over nor the course content you were taught.”

FYDP

N = 62

The class appears to only be somewhat proud of their FYDP, and has no plans to continue this work in the future.

The majority of the class' FYDPs were software based, with a couple of electrical and mechanical based projects.



Co-op

“work work work work work
work” ~ Rihanna



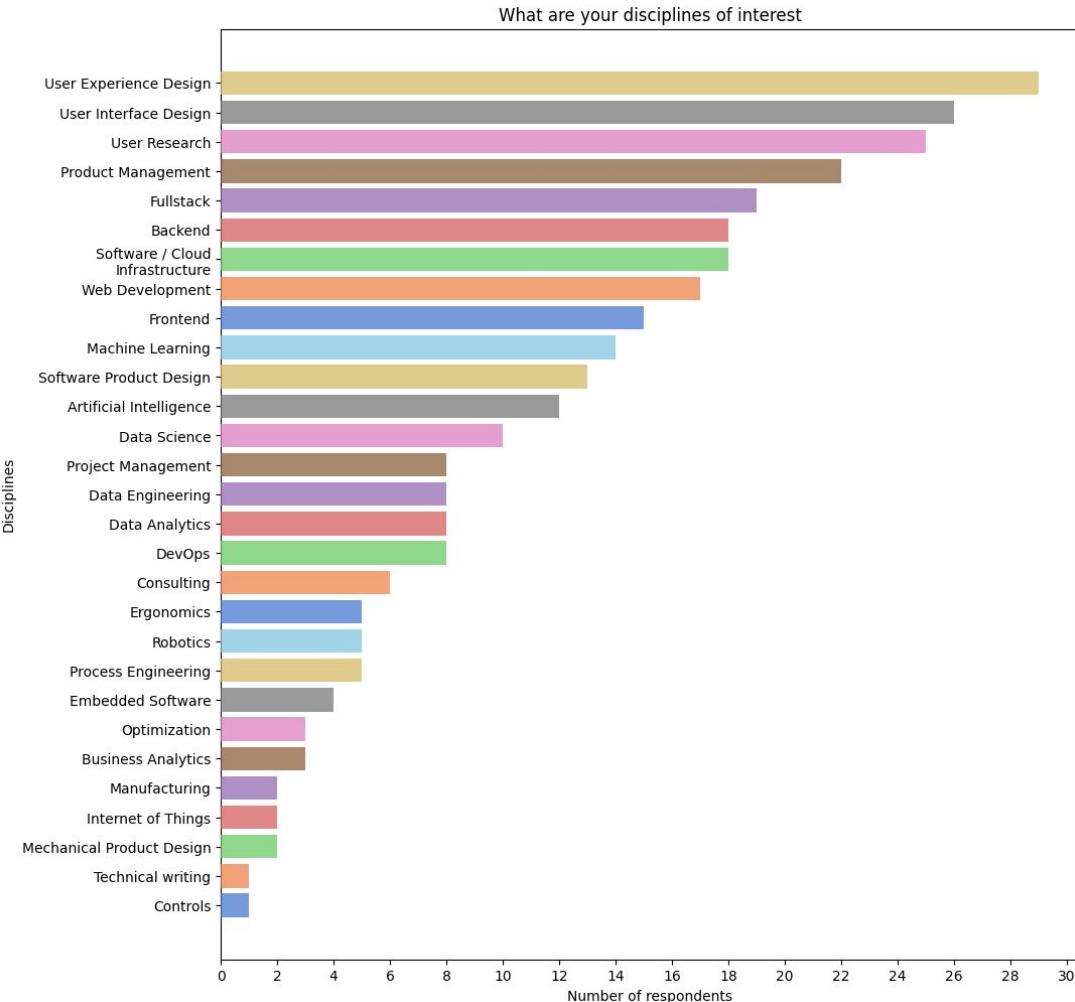
2B - FALL 2020

Disciplines of interest

N = 55

UX related disciplines lead the pack, followed by web software development, software infrastructure, data software, then traditional engineering fields.

It should be noted that Hardware and Circuit Design were available options, but had zero respondents

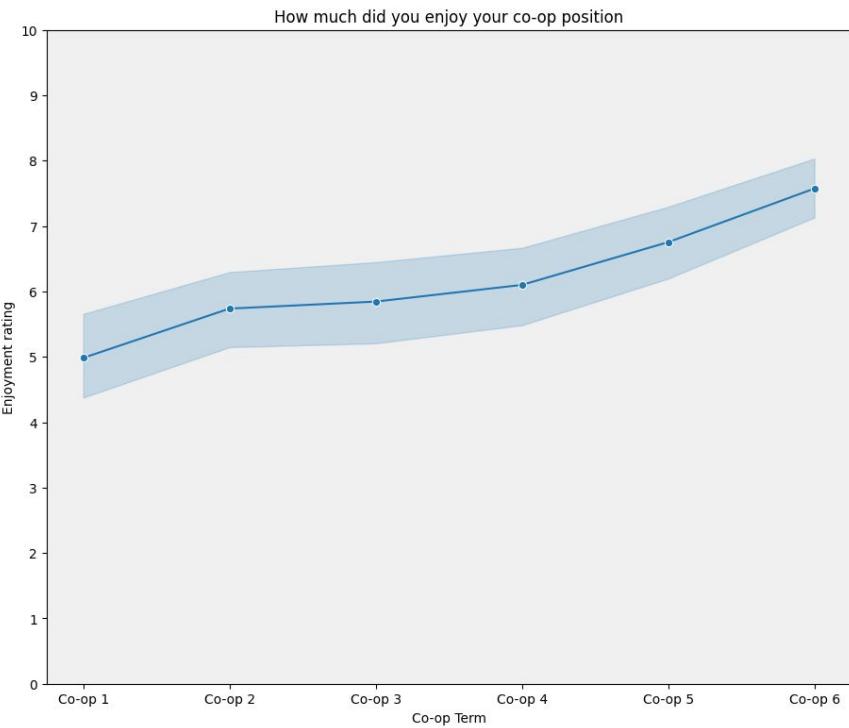


Co-op enjoyment

N = 58

As the class gained more technical experience, the types of co-ops available to them became more enjoyable

Physical co-op locations during Co-ops 3, 4, and 5 were not as enjoyable compared to 1, 2 and 6, since they were mostly work from home.



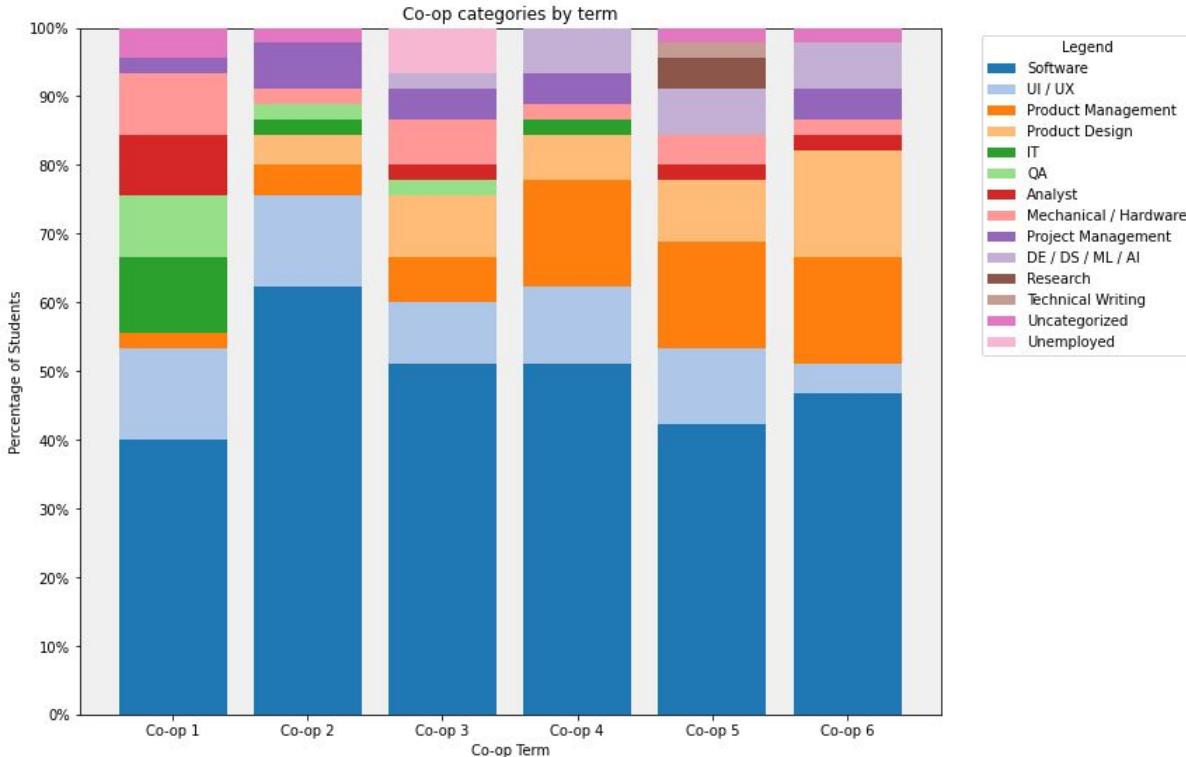
Co-op Roles

N = 42

Jobs in the tech sector dominated the class' co-op experience. Software roles stayed plentiful throughout. IT, QA, and Analyst roles are prevalent during 1st co-op prior to breaking into software. Product management and product design co-op grew in the later co-ops. Less than 10% of the class had a co-op in a traditional engineering role.

With the exception of 3rd co-op, the class maintained a 100% employment rate. Co-op 3's employment rate dropped to 92%, with many companies pulling their offers last minute at the beginning of COVID lockdown.

DE / DS / ML / AI stands for Data Engineering, Data Science, Machine Learning, and Artificial Intelligence

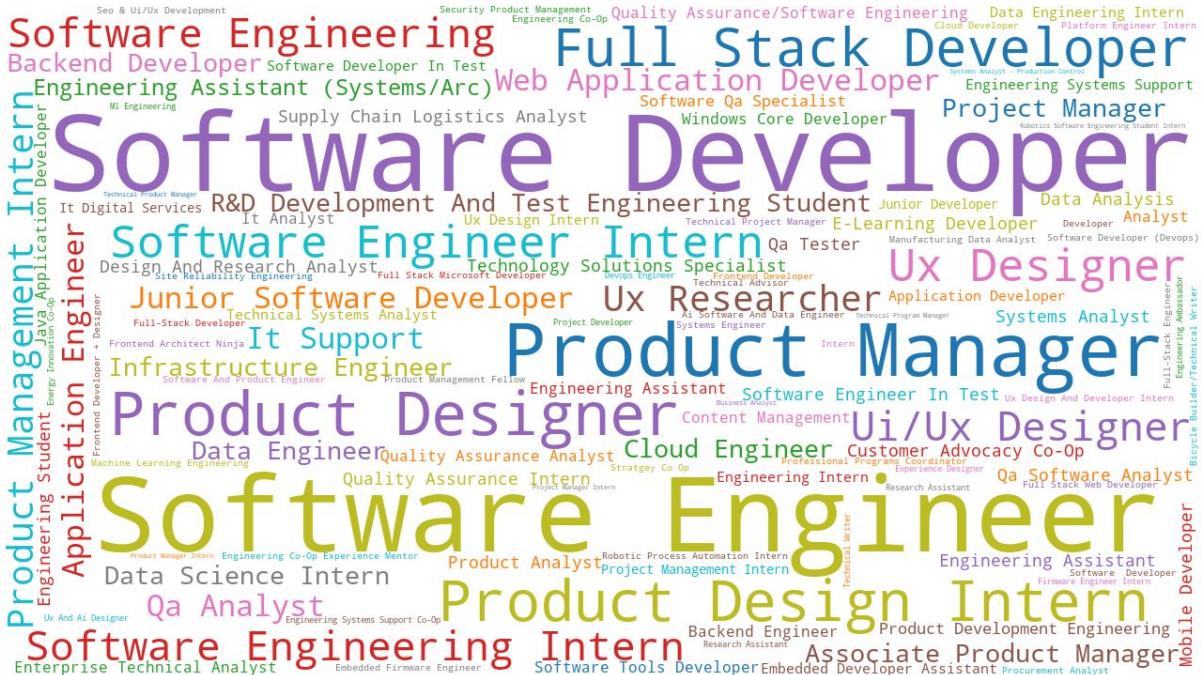


Co-op Job titles

Many job titles were held for our co-ops.

These are the types of co-ops SYDE students get

“You are all MAN A GERS” ~ Professor Nasser Azad

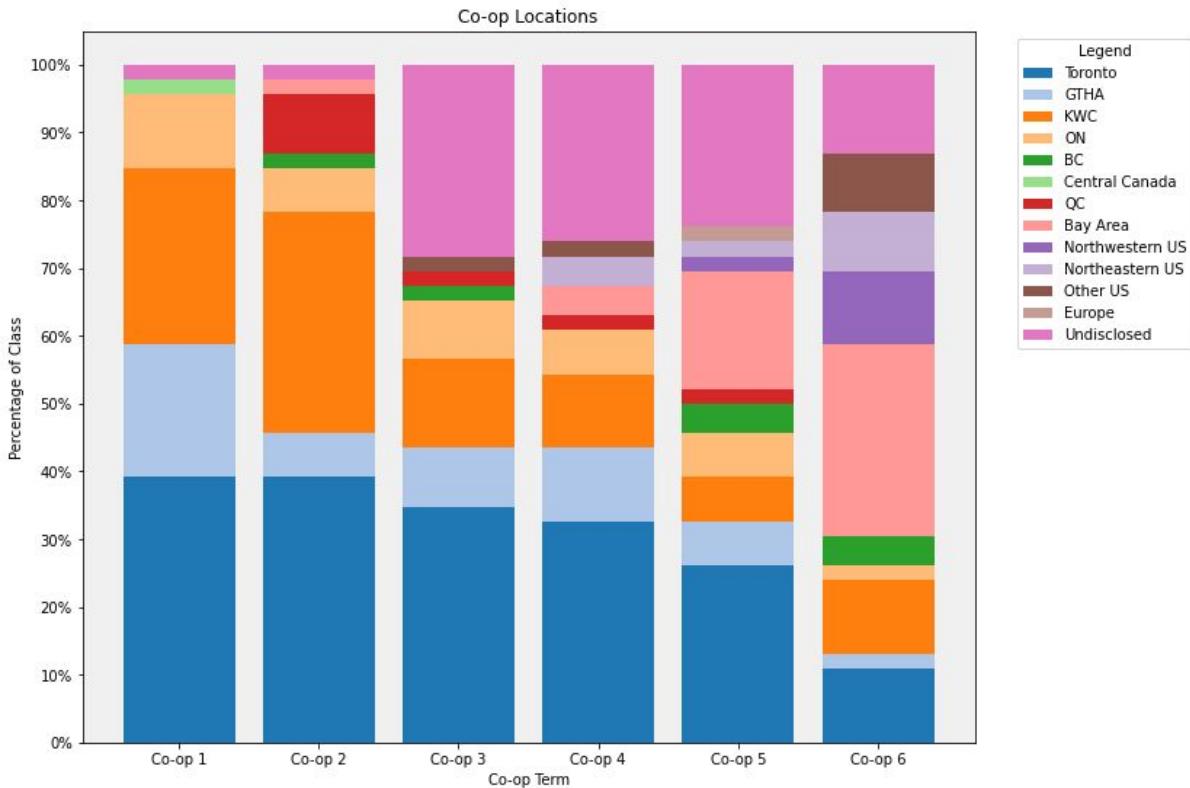


Brain Drain in Action

N = 45

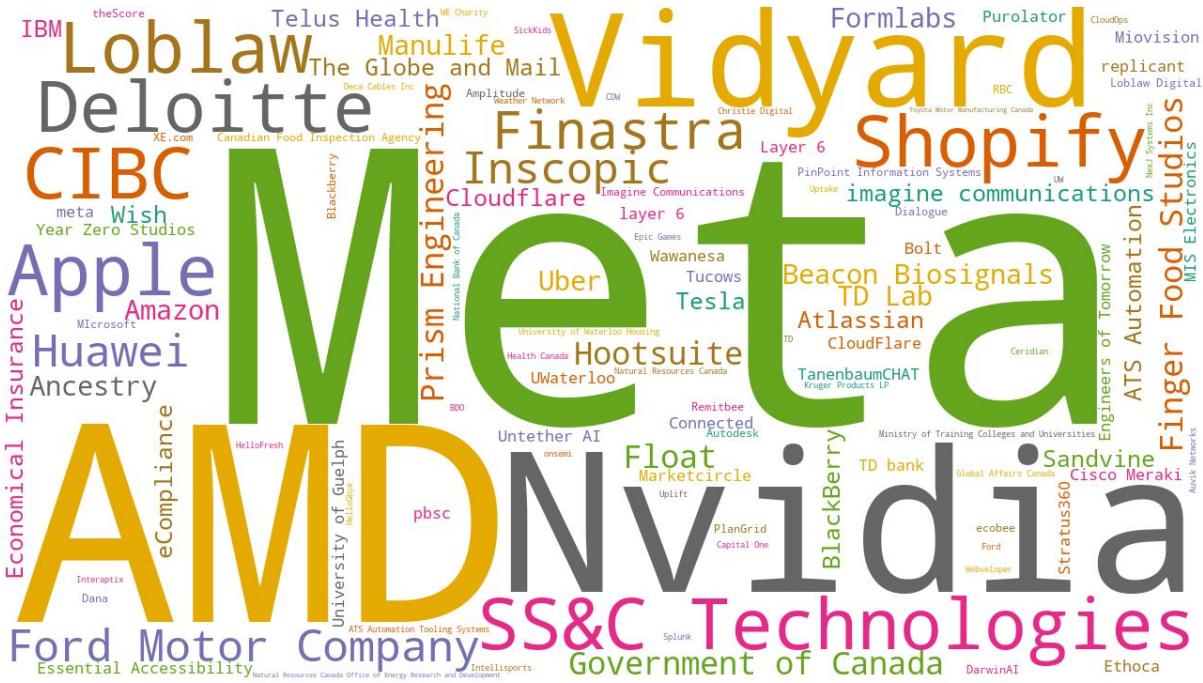
Toronto, the GTHA, and the KWC Tri Cities are the central hubs for jobs in Ontario, and for the first 3 co-ops. This is largely in part to the number of Ontario based jobs posted in WaterlooWorks.

As co-op terms go by, more and more of the class went to the US for their internships, with the Bay Area in California having the largest share of the class during our 6th co-op. The increase in pay and company prestige are commonly cited reasons to choose the US internship experience



Co-op Companies

Some companies that we worked at during our co-op terms!



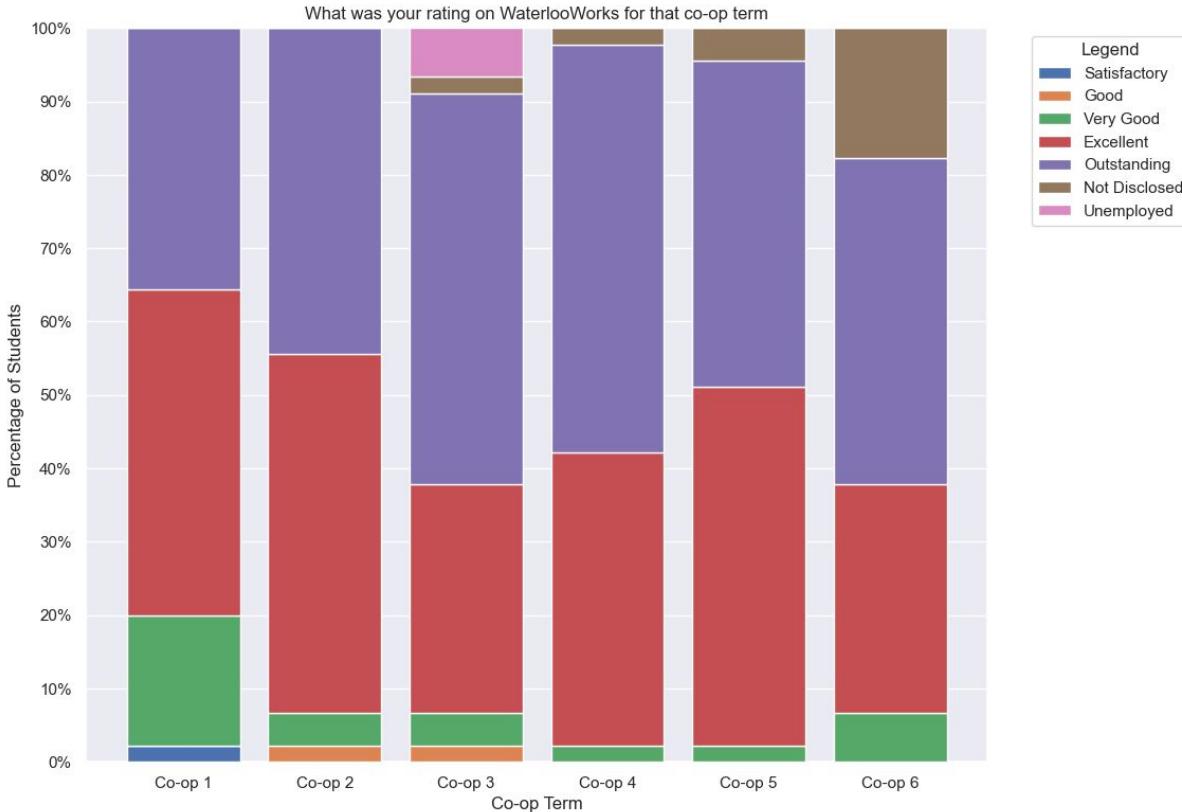
WaterlooWorks rating

N = 43

The majority of the class received WaterlooWorks ratings of “Excellent” or “Outstanding”.

Historically, the UW CECA website stated that over 90% of UW students receive a “Very Good” rating or above, and that an “Outstanding” rating signifies you are the cream of the crop [Site no longer contains this information, no data available in wayback machine].

You can show this data to your employer when performance evaluations get released, should you receive a non-ideal rating

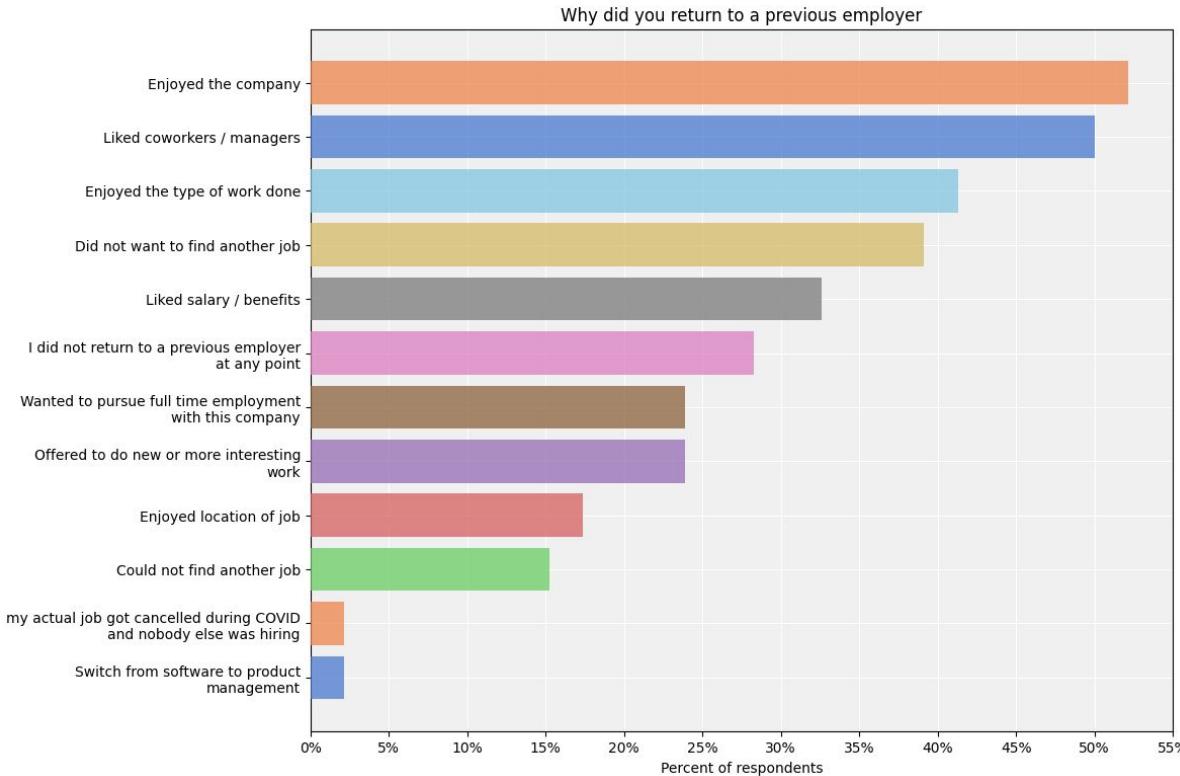


Returning to previous employer

N = 46

40/62 of the class have returned to a previous employer at any point during the degree

Reasons for returning include enjoying their previous time there, or refusing to participate in the co-op search.

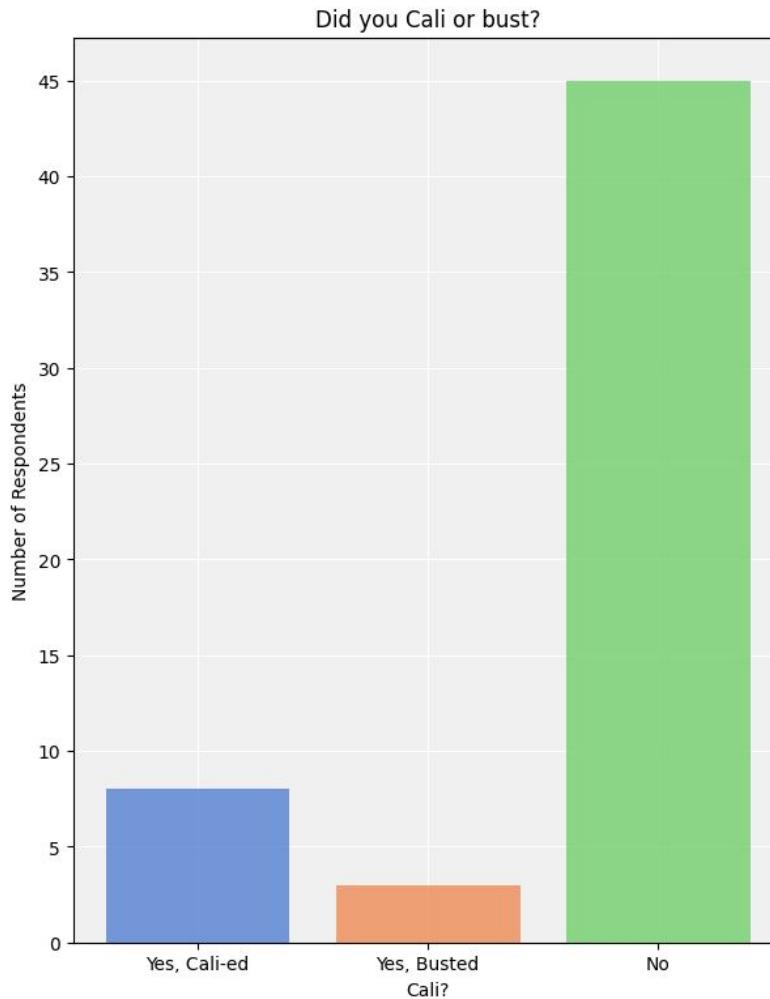


Cali or Bust?

N = 55

“Cali or Bust” is a term in which a student only applies to California based co-op during the (main round) co-op application period, and will only settle for a California co-op and nothing else.

Arguably, Cali or Bust may have expanded to any job within the major tech hubs in the US

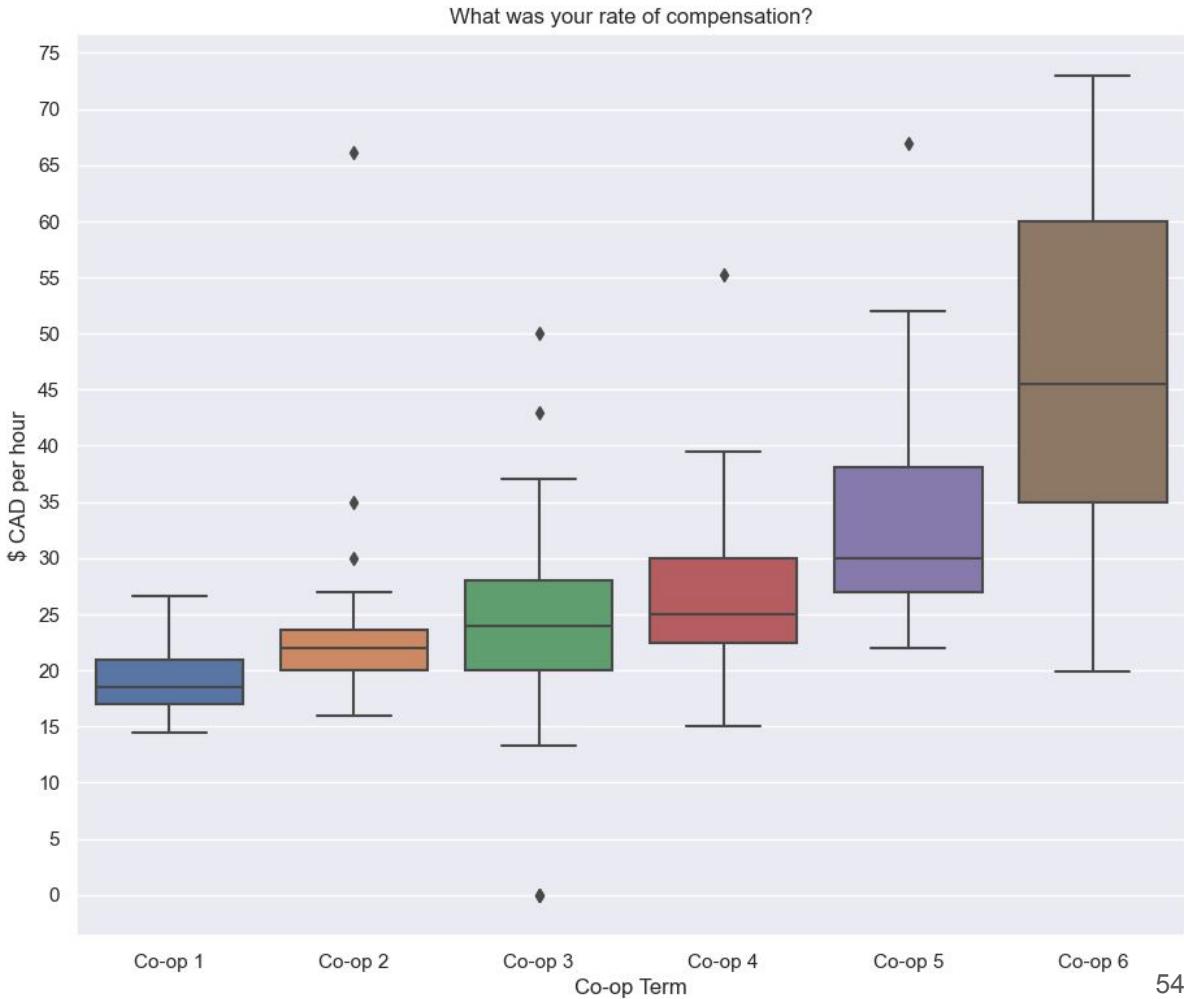


\$\$\$\$\$\$\$\$\$

N = 41

As co-op terms go on, more experience means higher intern pay. The job from 5th to 6th co-op is explained by more of the class taking internships in the US.

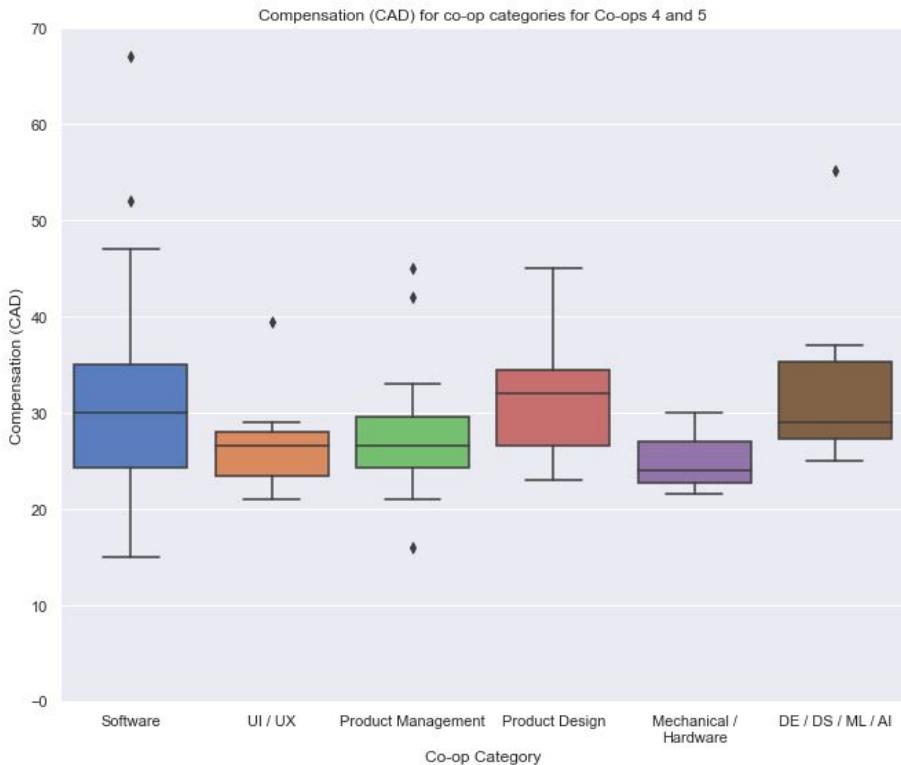
Taking a 37.5 hour work week at 16 weeks per co-op term at 6 co-op terms, the class made **\$4 567 158 CAD** in total, or **\$101 492 CAD** each (before taxes)



\$ per job type

Breaking the pay scale for 4th and 5th co-op by role, the mean and median compensation hovers between \$25 and \$32.

Statistical significance tests will be conducted in a future iteration of the class profile

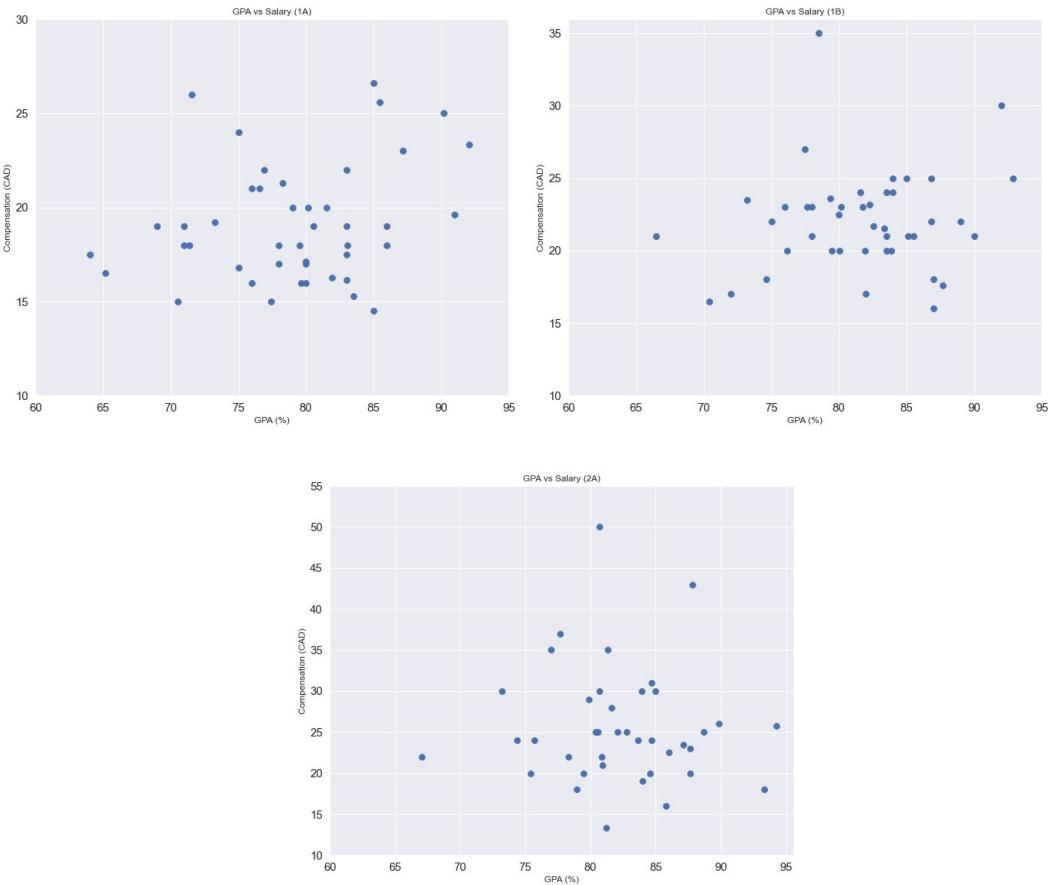


Gpa vs salary

N = 39

By visual inspection, there does not appear to be any strong correlation between GPA and Co-op compensation.

GPA for each term was calculated by computing the cumulative average achieved prior to entering the co-op term. (ex: 1B computed gpa would be $(1A \text{ GPA} + 1B \text{ GPA}) / 2$)



Lifestyle

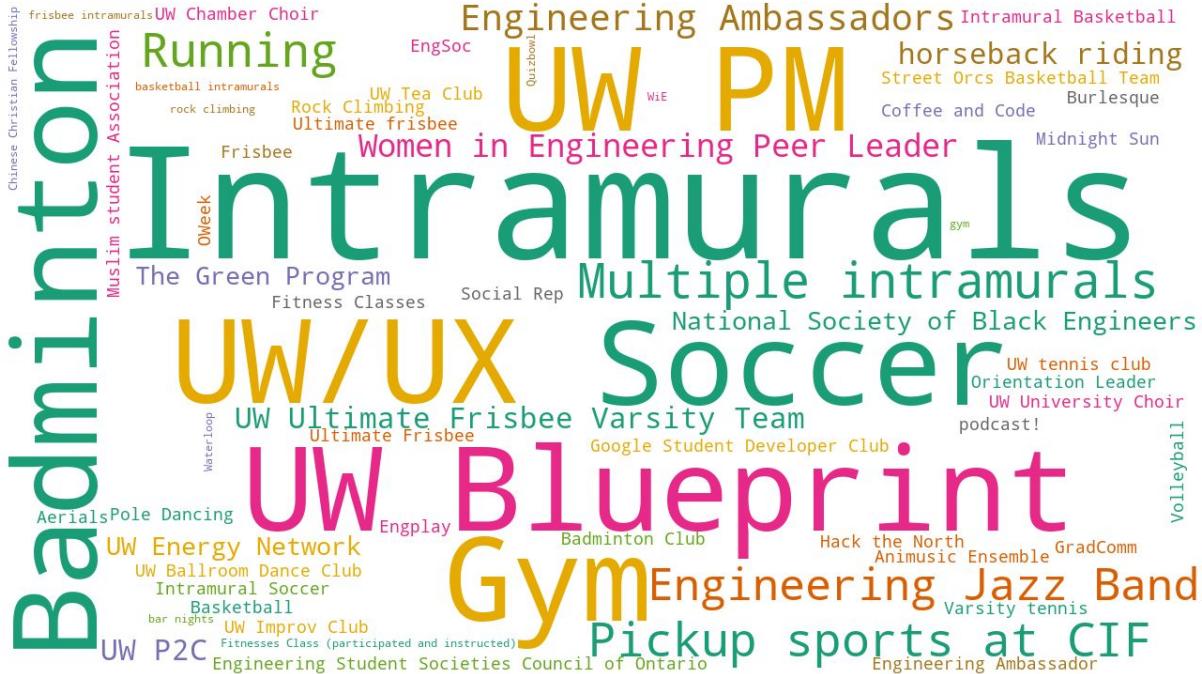
insyde and outsyde



3A - SPRING 2021

Extracurriculars participated in

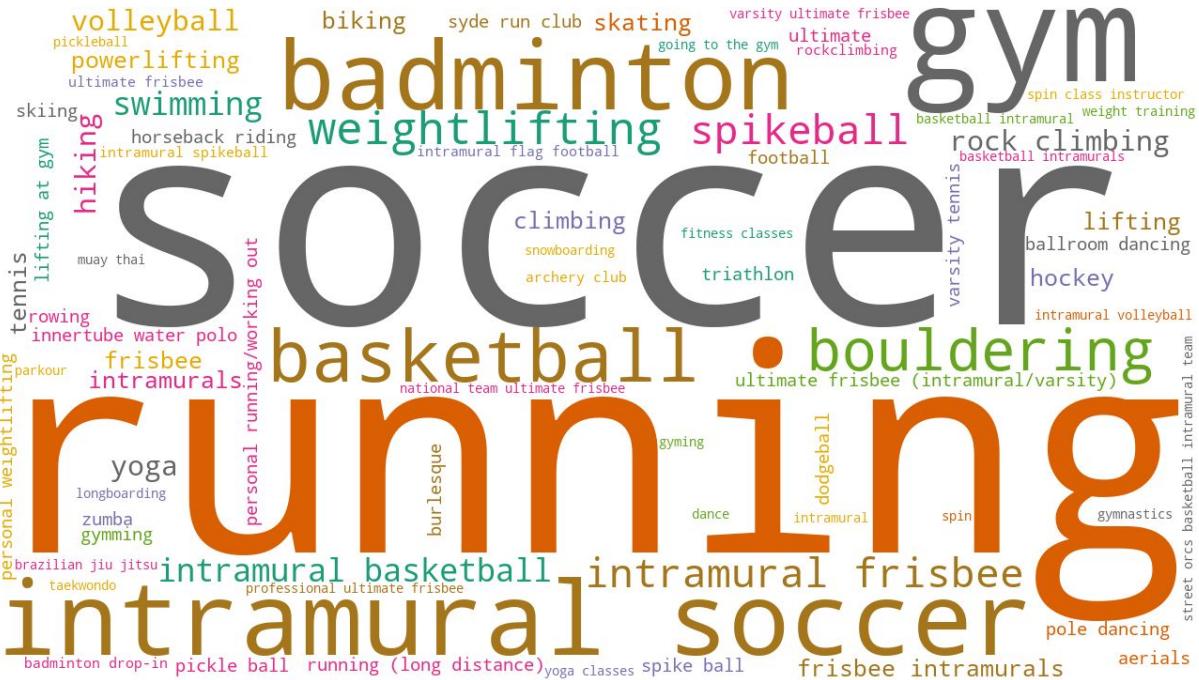
The class participated in many different extracurriculars. Professional extracurriculars that the class is most involved in include UW Blueprint, UW/UX, and UW PM, all of which correlate with the class' disciplines of interest.



Sports you do

The class is relatively active, with soccer being a popular choice.

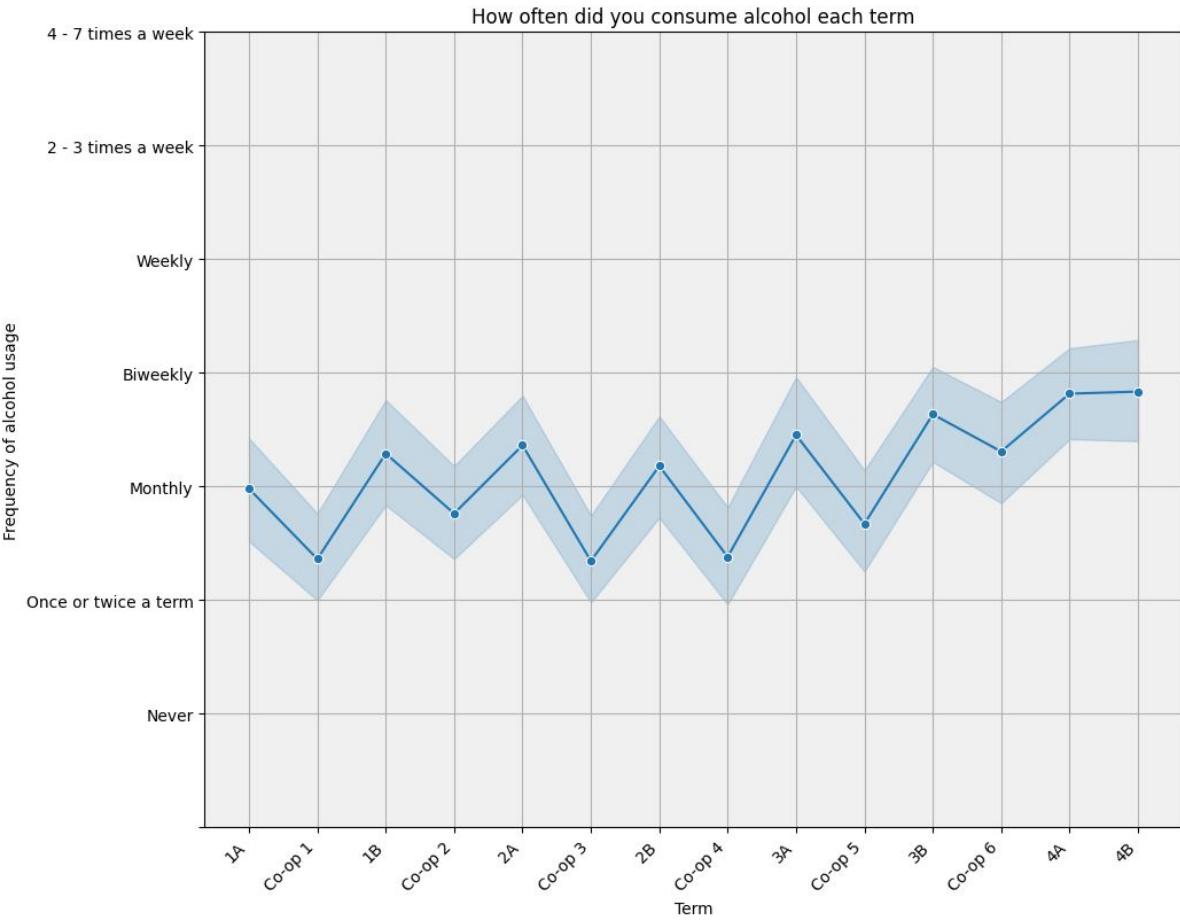
The SYDE intramural soccer, frisbee, and hockey teams were a great way to build communities and to stay active during the school terms. SYDE Sports Reps also hosted workout sessions over Zoom to keep the class active during the online study terms.



bottoms up

N = 54

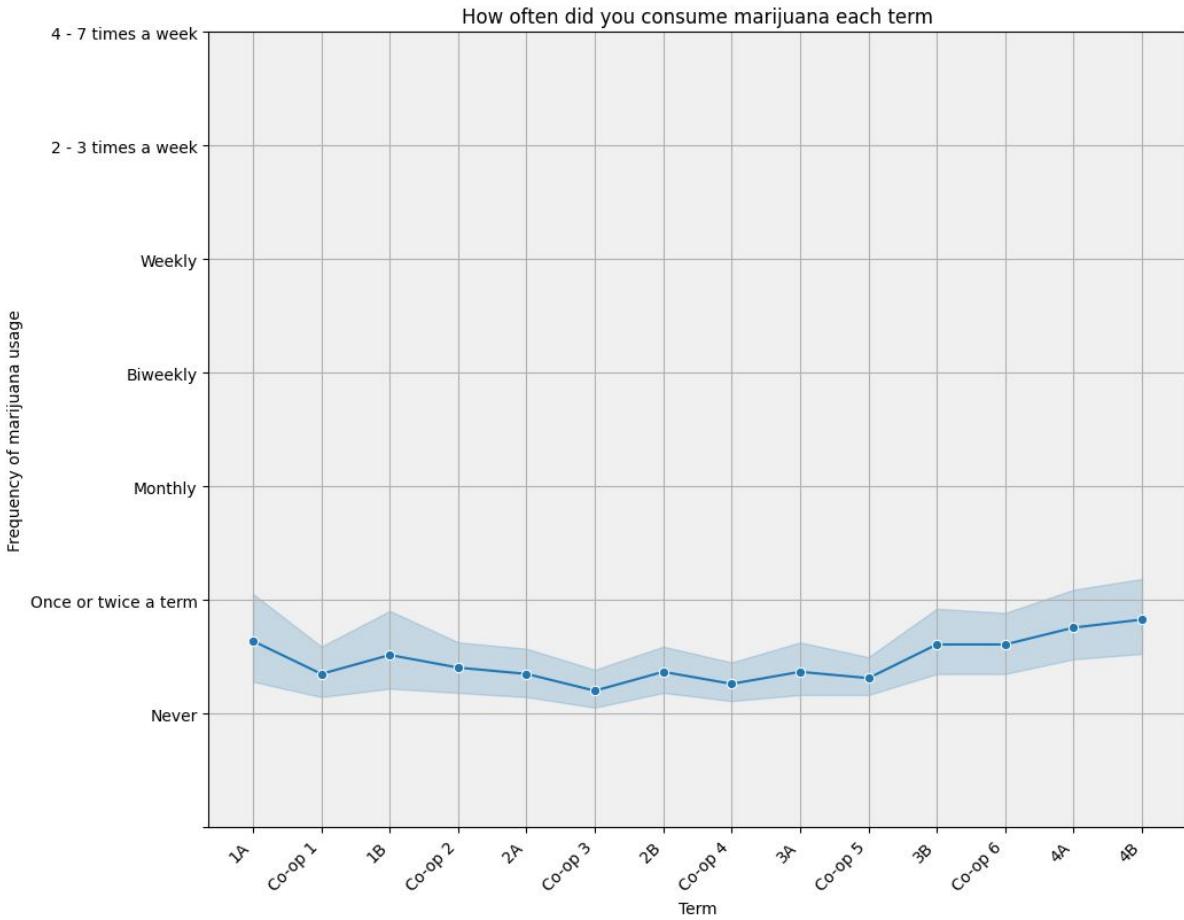
Alcohol consumption steadily rose for the class. Note that alcohol consumption drops for most co-op terms, except for co-op 6, which might possibly be explained by the first in-person co-ops after COVID



blaze it

N = 53

Marijuana became legal in October 2018, halfway through our 1A term. Marijuana consumption remained relatively low throughout the degree

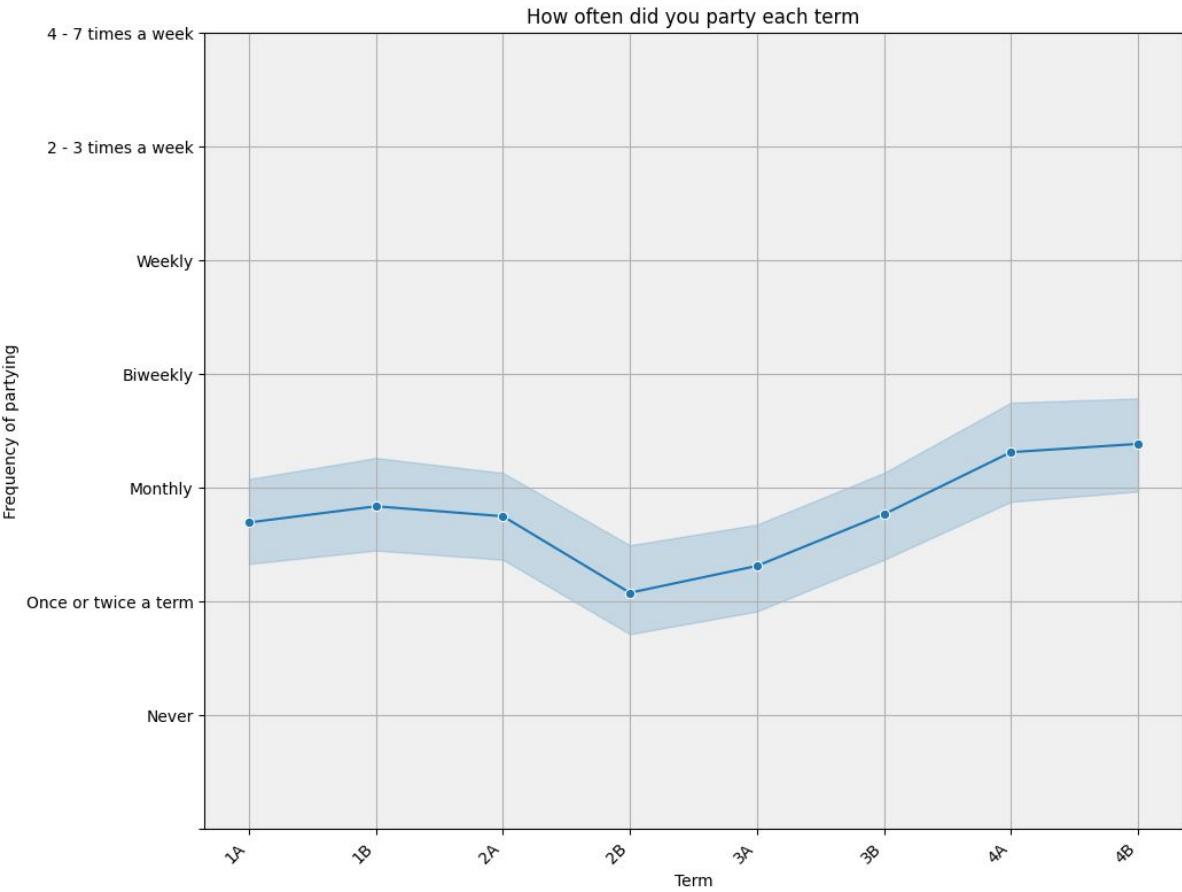


im getting lit 2nite

N = 54

Partying took a dip after COVID but rebounded after 3B.

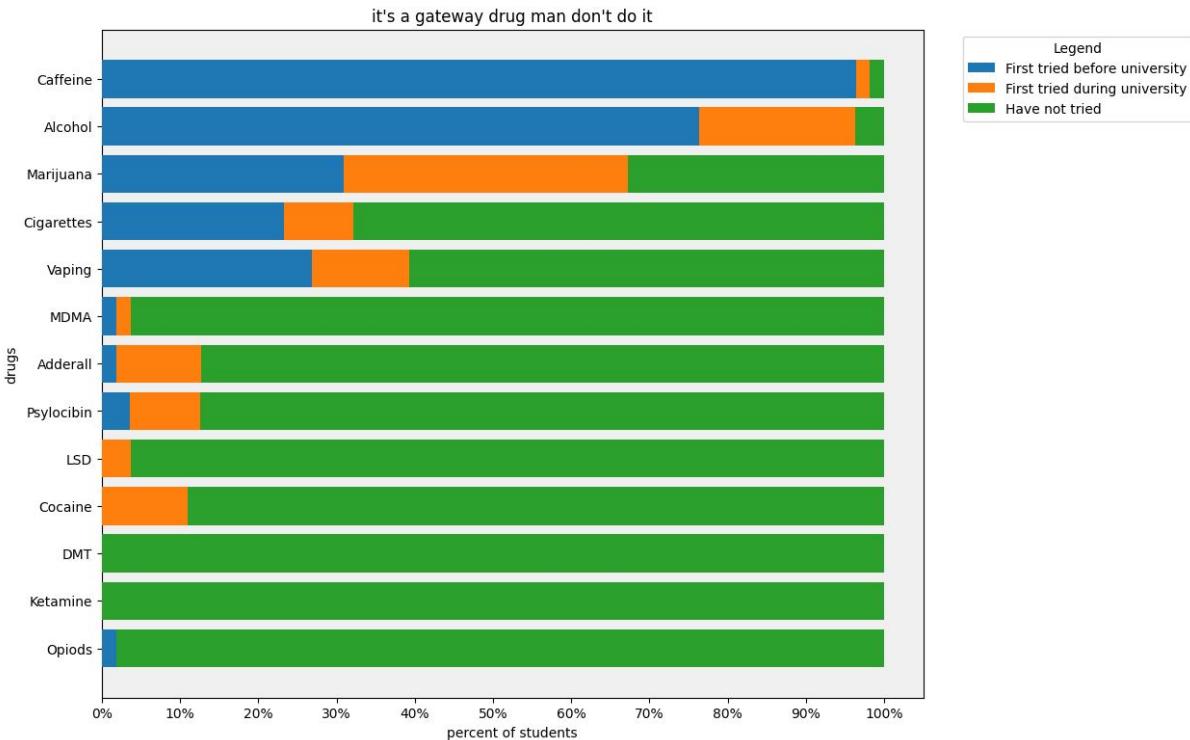
There is a possibility that people missed out on the university experience during COVID and are trying to make up for that in 4th year, or they have everything set for them so that it's acceptable to party



Drugs

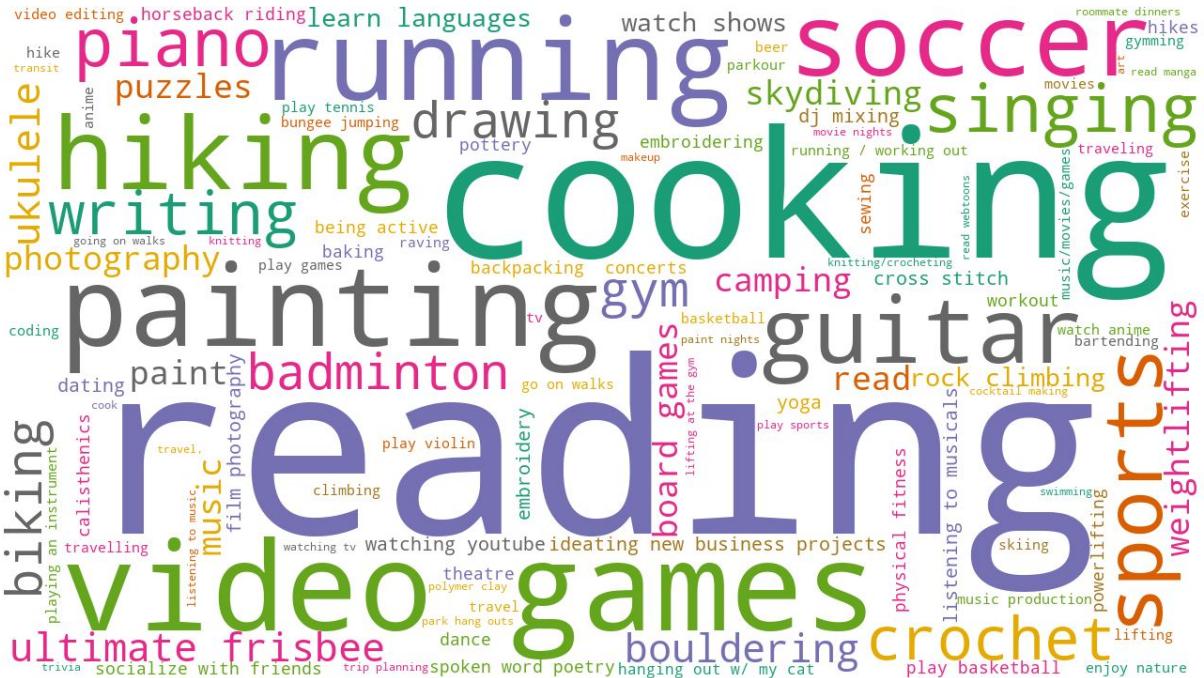
N = 55

The class largely experimented with alcohol and marijuana, but not too much drug use other than that



Hobbies

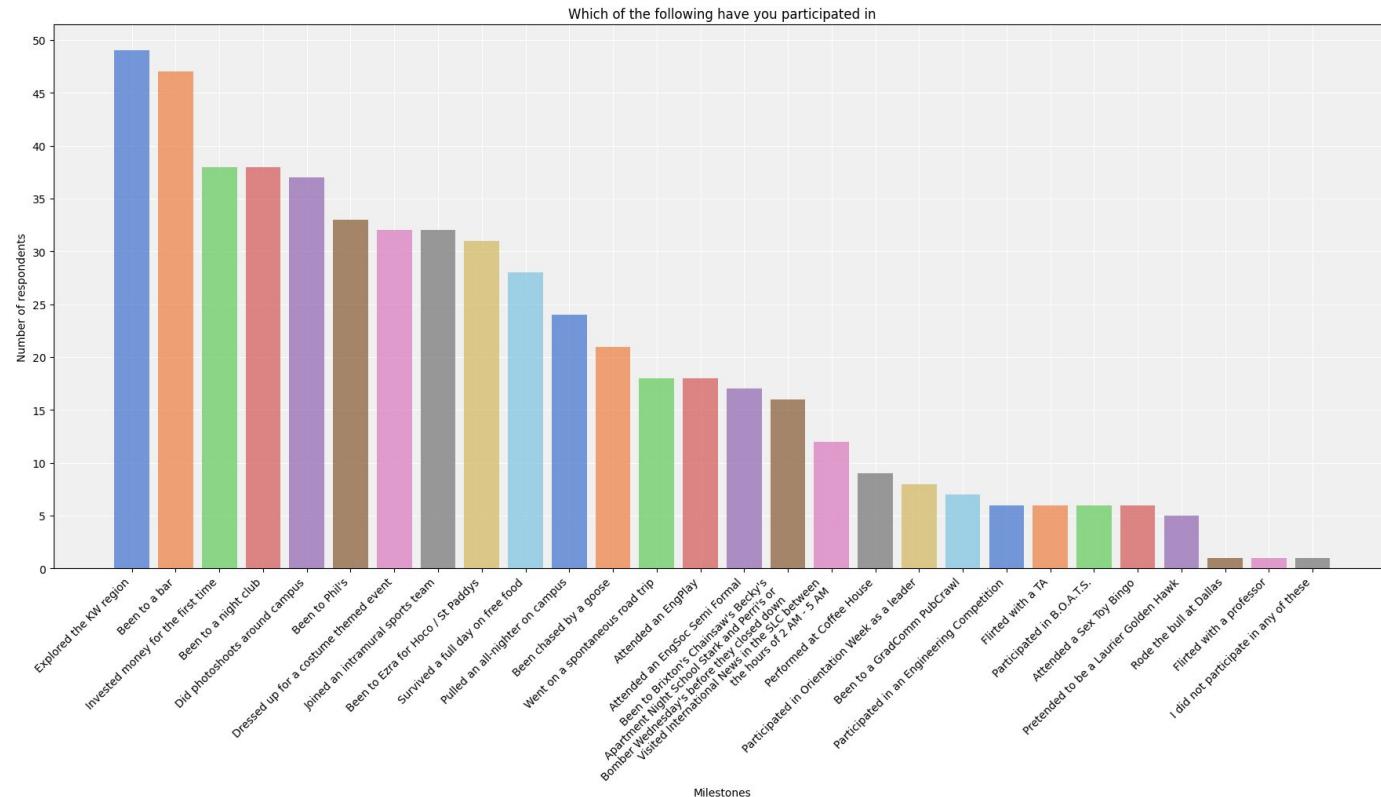
The class engages in several hobbies, proving that UW ENG students are multi dimensional



UNIVERSITY MILESTONES

N = 56

RIP
chainsaw's
and
bomber's
btw

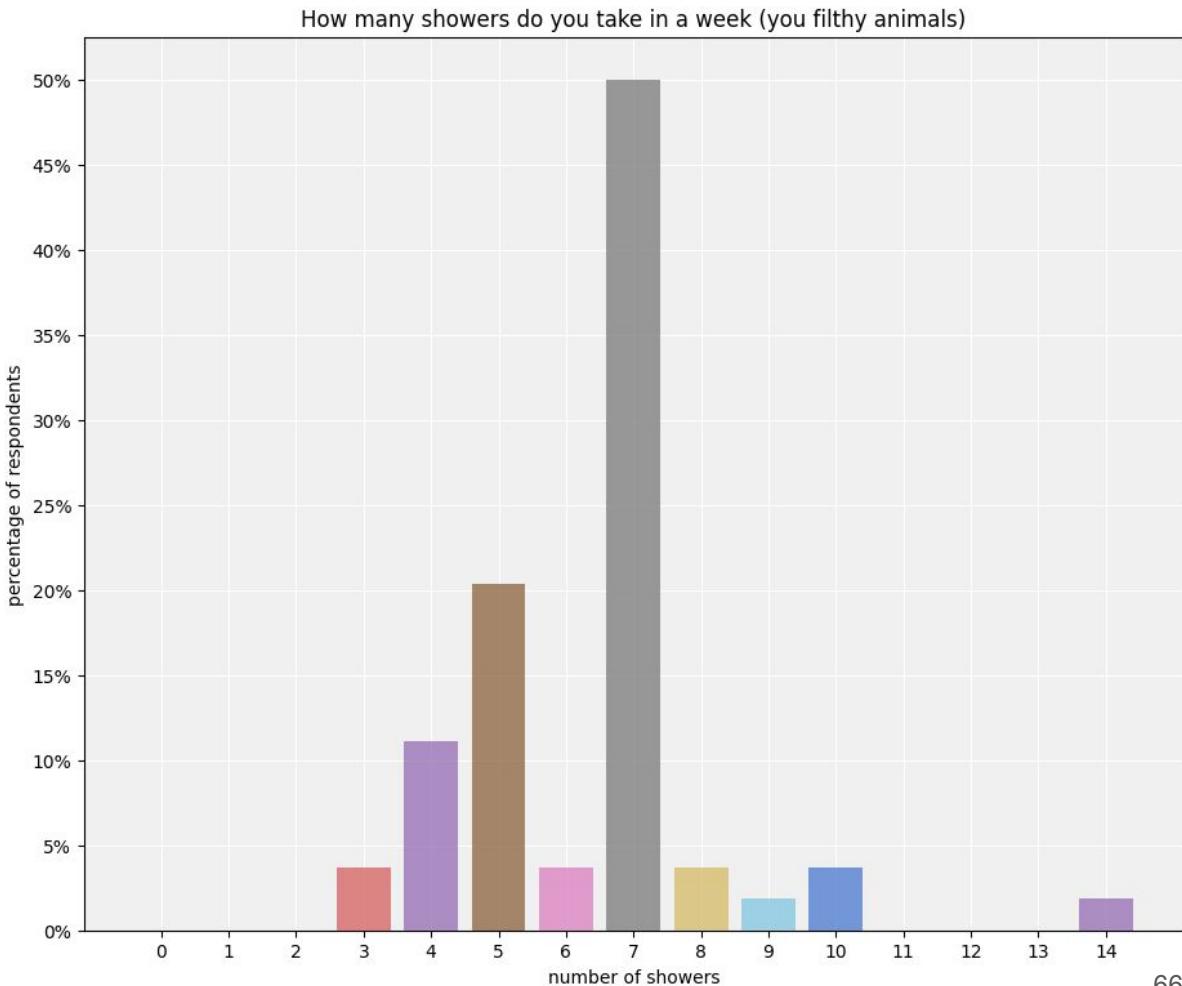


Showers

N = 54

Engineers (do?) shower !!!

no but like srsly tho if u dont already
please take a shower brush your teeth
and wear deodorant. i can smell you
across campus from E5

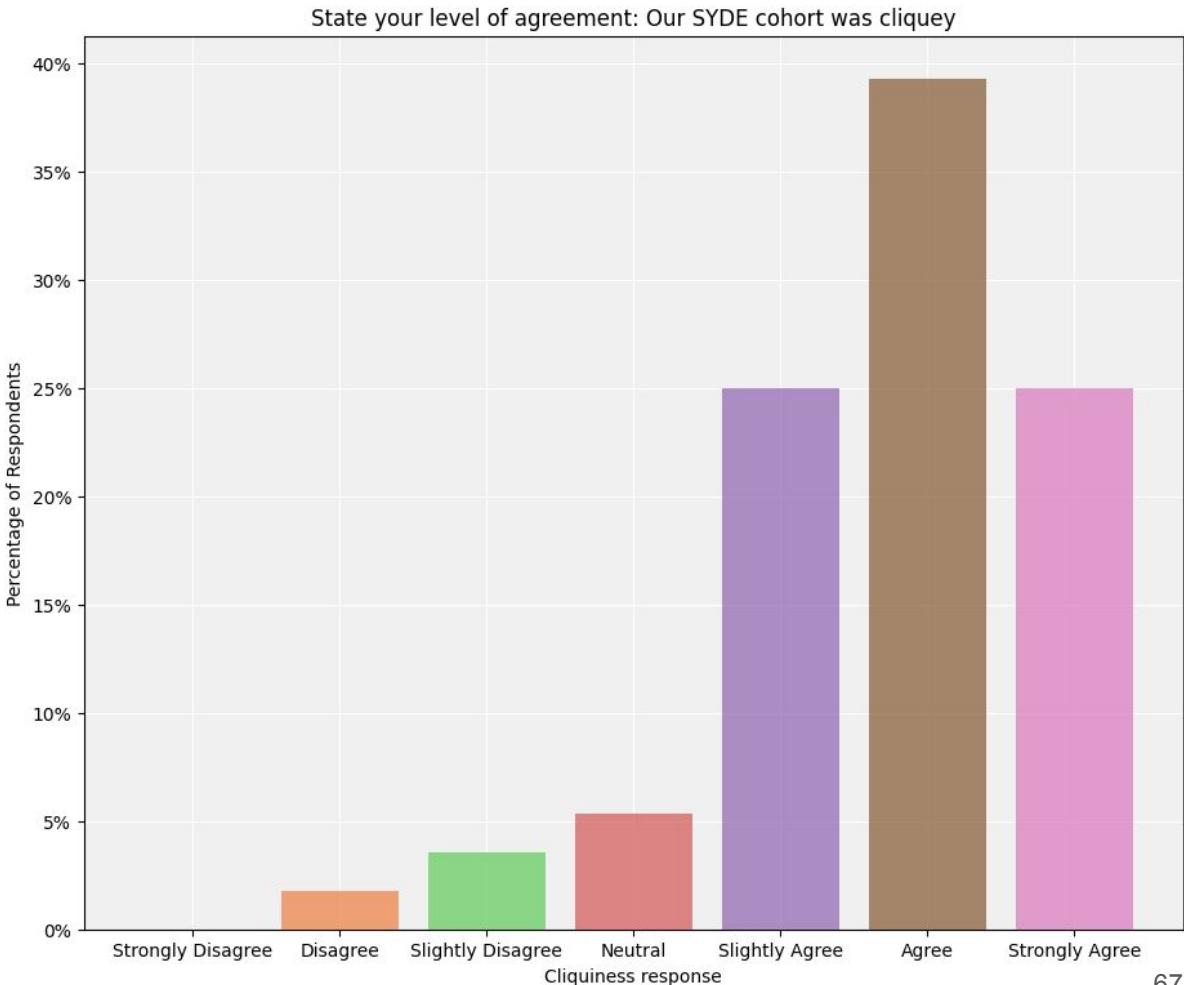


cliques

N = 56

The class considered themselves to be very cliquey.

Arguably, cliquiness arises in many previous SYDE programs, as well as in a lot of ENG programs at UW. See Kha's future blog post about how the role of Social Rep may reduce cliquiness of a class

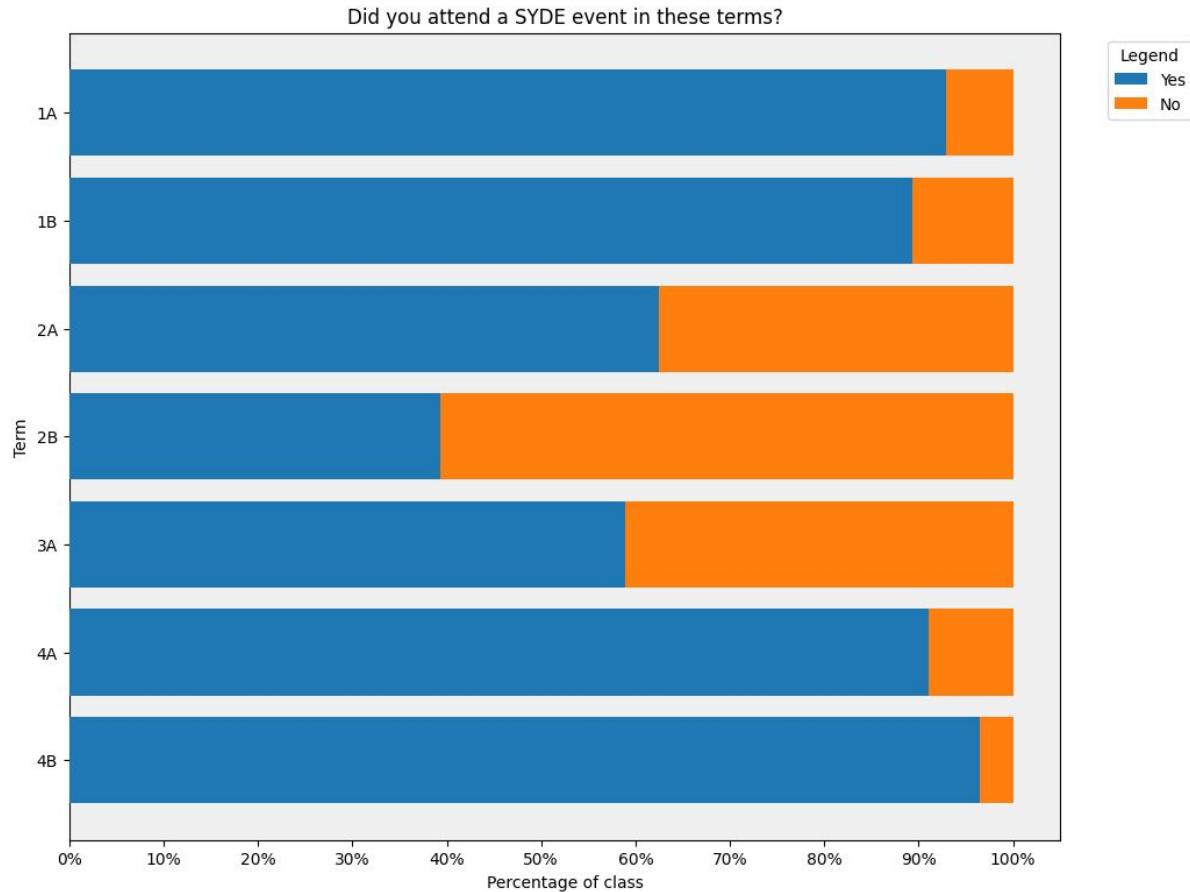


SYDE event attendance

N = 56

SYDE social event attendance dropped during COVID, but returned to pre-pandemic levels in 4th year

It should be noted that no SYDE events occurred in 3B, which was the term that in-person classes resumed halfway through the term. Event spaces were operating at minimal capacity, unable to fully accommodate the 70 students on campus that term



SYDE Highlights

“Coffee House, amazing performers, place, fun time”

“Making (and tasting) the blueberry ink with my roommates, doing a blind taste test of coke vs diet coke vs pepsi vs diet pepsi in cognitive ergonomics and getting every one right before i even tasted them, shooting each other with water guns during cognitive ergonomics tutorial, building an 8-bit computer in 1B circuits, going to ASG every semester with the whole class”

“That one time we were all writing a really stressful test and the kahoot music started up from the next class over (2A).”

“Found interesting people that you could share a beer with and about life and beyond. Got wickedly drunk in SYDE lounge once.”

“ASG, grad prank, rafting trips”

“SYDE socials, studying in the SYDE computer lab (RIP)”

“Grilling on the SYDE rafting trip”

“Performing at Coffee House and that connecting overall experience was awesome. SYDE Run Club even if those early mornings HURT doing it together and that high when you were done were amazing. Alsooo the SYDE Covid workouts were fun and helped me feel less alone during a super lonely time.”

“Playing Among Us for exactly 1 night and never touching it again, the Minecraft server, maniacally explaining a solution to an assignment with a sharpie and cardboard to my housemates at 1am while they looked on with genuine concern, building a functioning whack-a-mole game with the arduino kit in 1B, the water balloon fight in the EOT social in 4B, being the only person to show up for intramural soccer, Smash in the lounge”

“SYDE events, Grad events, being with friends, working on group projects late at night, pulling all nighters”

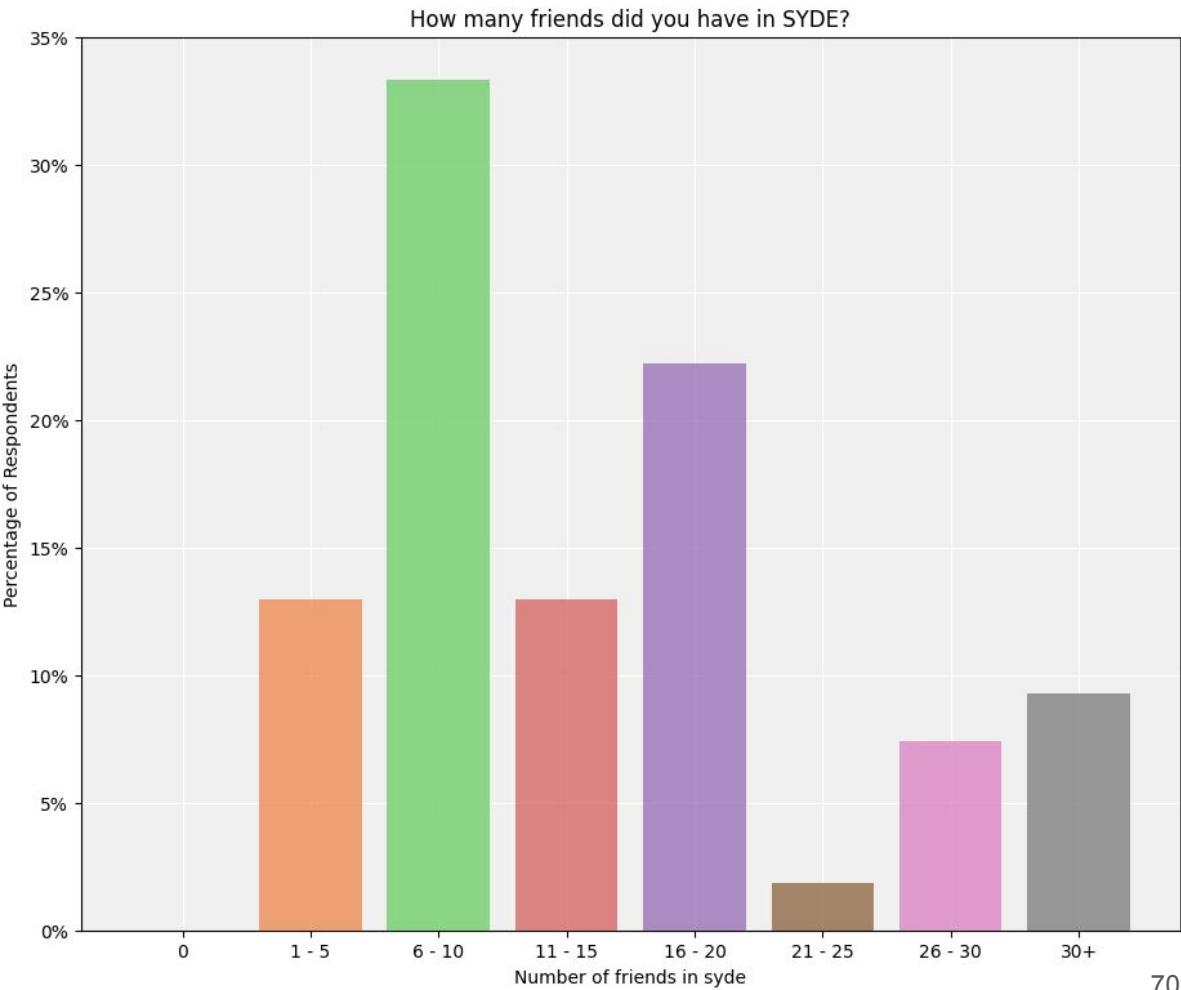
“Some highlights include: SYDE/BME picnic, our first SYDE 121 class with Igor, SYDE grad pranks, SYDE/BME coffee houses, long Catan/study sessions in the Funcken cafe during exam season, coming back to campus after COVID and seeing all my classmates again”

Friends in SYDE

N = 54

We were social butterflies (-ish)

0 people reported having zero friends in SYDE, a win is a win

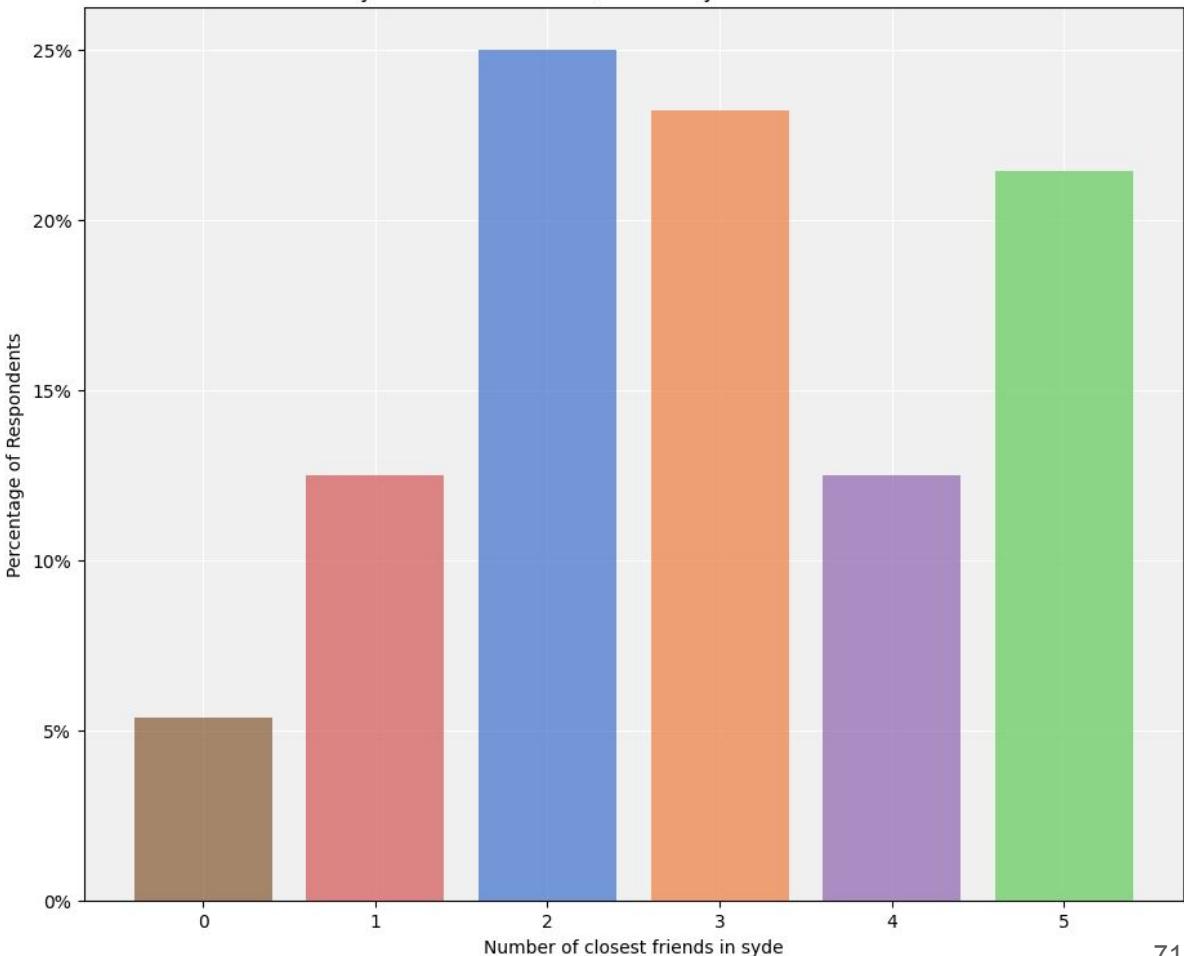


Of your 5 closest friends, how many of them are in SYDE

SYDE Ride or Dies

N = 56

22% of the class report having their closest 5 friends to be all in SYDE.

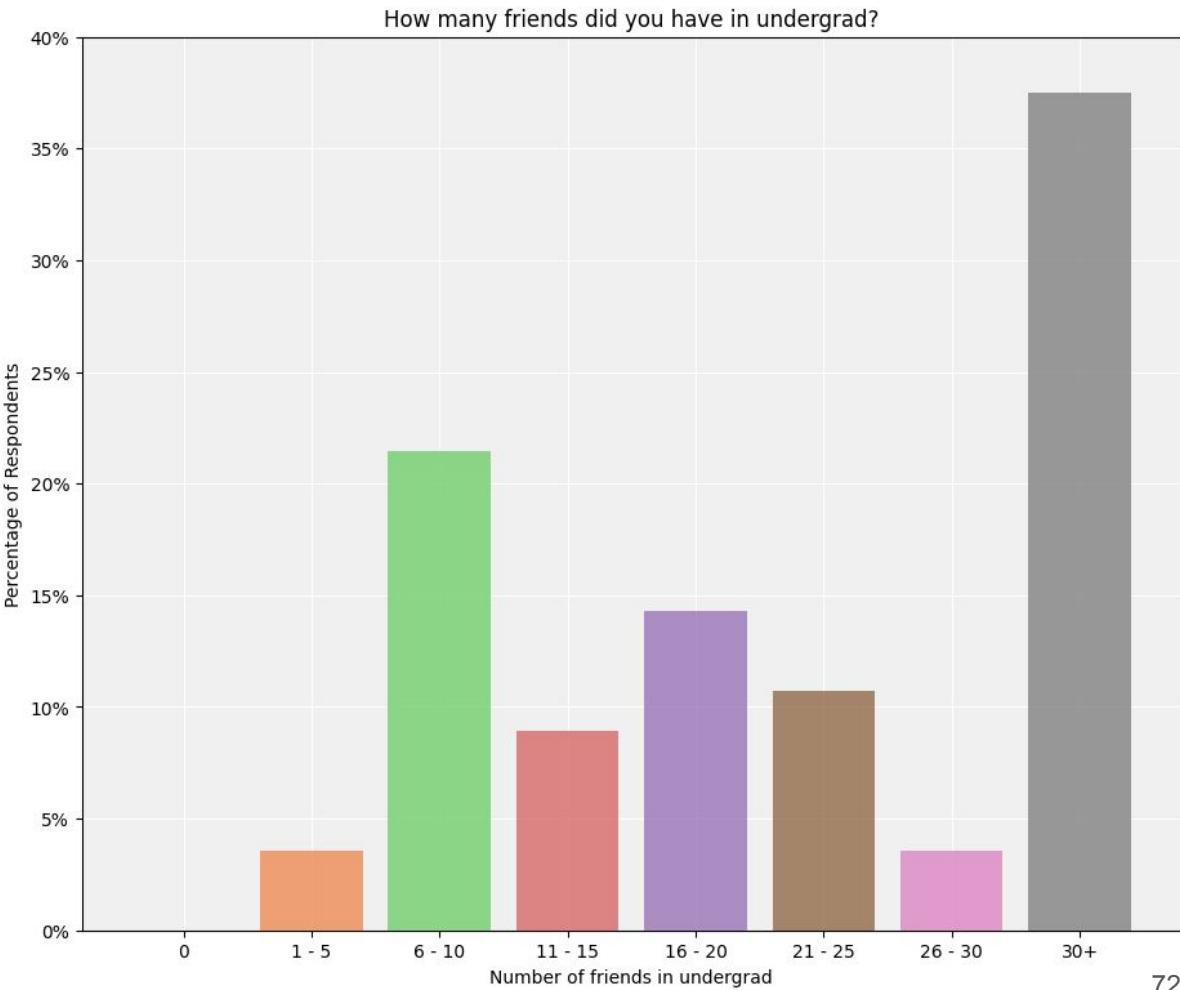


Friends? all 10 seasons

N = 56

We are social butterflies (part 2).

Anecdotally, SYDE is known to be very outgoing, and arguably the most outgoing out of all the ENG programs at UW.



What was the most touching thing a classmate did for you

“Phoebe baked a spongebob birthday cake for me”

“Make me a scrapbook”

“listen to my struggles, also let me stay at their place, etc.”

“Taking my call out of the blue and talking me through my only anxiety attack”

“Gave me a fruit bowl when i was hungover”

“1B group study sessions where I was in a really bad place mentally, and would have slept/cried for 12+ hours a day if I had been left to my own devices. I got through that exam season thanks to them.”

“Made a card that people signed”

“Brought me cake for my birthday to SYDE lounge!”

“lucy decorated our apartment the morning of my birthday with balloons and hid kinder surprise eggs in the first 3 places she knew i would look right after i woke up <3”

“Got me food”

“Wrote me a romantic card”

“Being given a handmade note / card during times of stress / uncertainty”

“Cook me dinner while I was sick”

Favourite Plaza Food

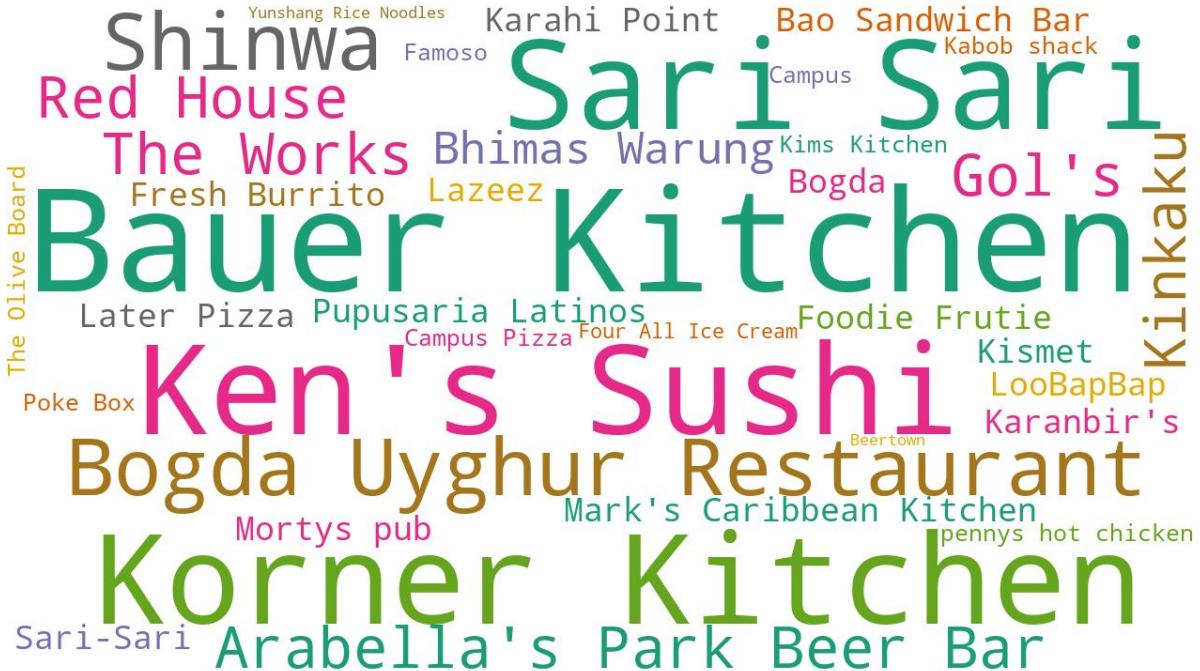
Shinwa's and Gol's appear to be go-to spots in the plaza

RIP Mikey's Eatery btw



Favourite KW Food

For those who ventured out far from E5, The Bauer Kitchen, Korner Kitchen, and Sari Sari are well loved. For those not wanting to stray too far, Ken's Sushi remains on top



Relationships

<3



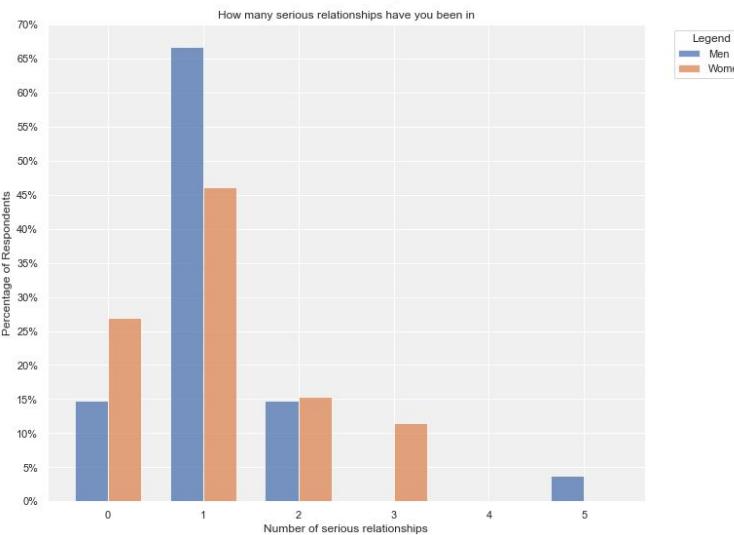
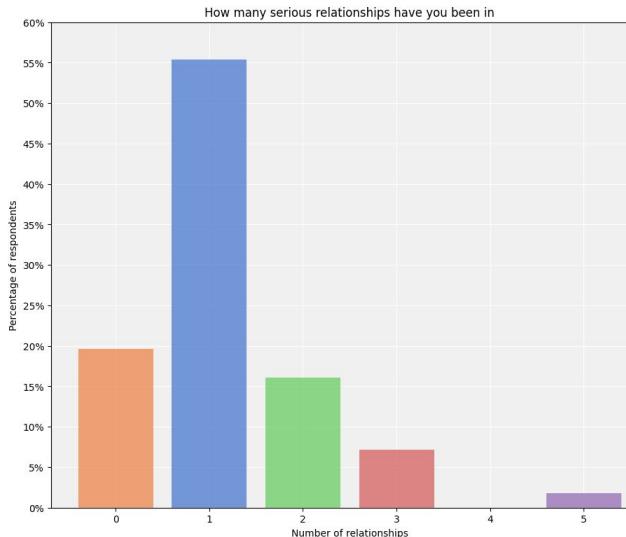
3B - WINTER 2022

Love is in the air

N = 56

80% of the class has been in at least 1 serious relationship. 66% of men have only been in one relationship

From the 80%, the average number of months spent in a relationship during undergrad is about 28 months (that's almost 2 ½ years!) Note: this doesn't necessarily mean the average relationship lasts 28 months.



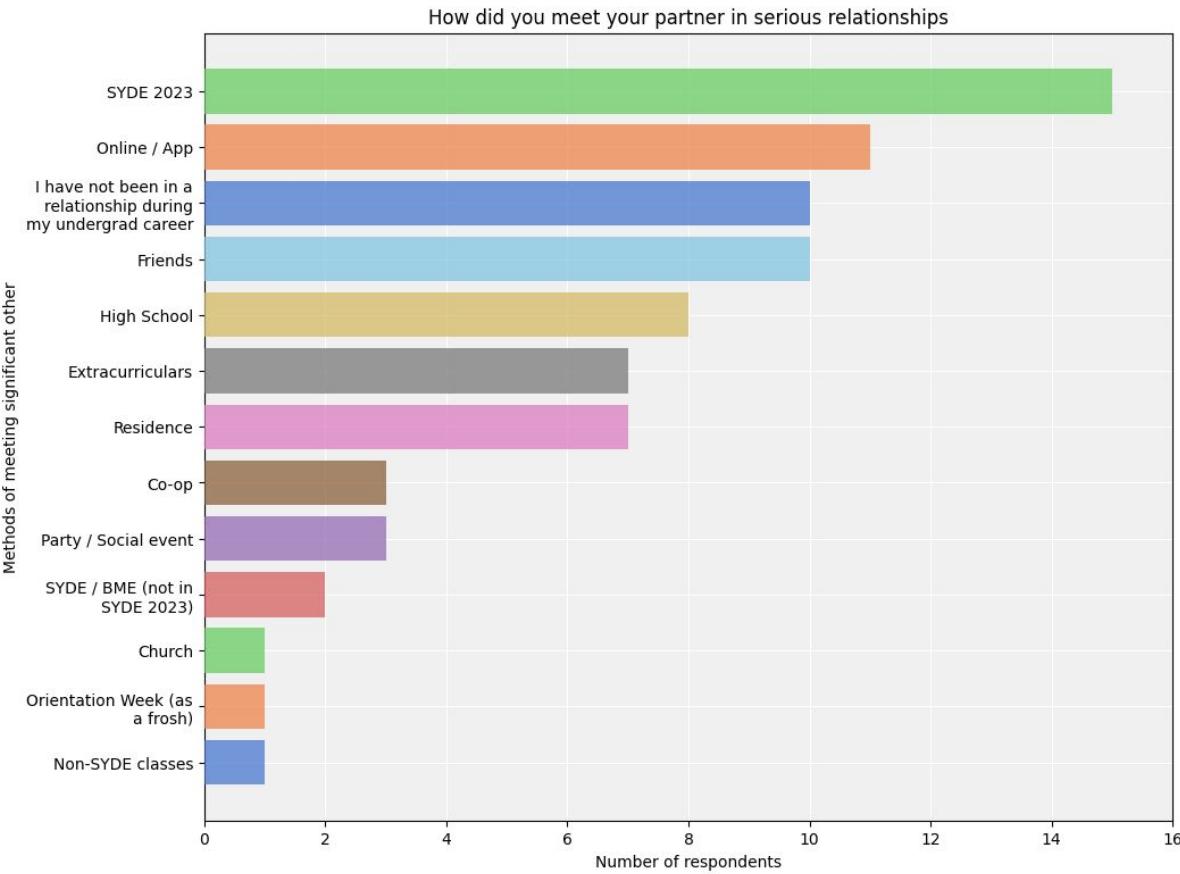
Hinge IRL

N = 55

From the data, it appears that the best way of meeting someone for a serious relationship is through your connections in relatively close proximity (Friends, High School, Extracurriculars, Residence)

Note: It remains undetermined if "Friends" means your friends becoming your significant other, or meeting your significant other through your friends.

It should also be noted that no one found their partner through Aphrodite, a yearly matchmaking service for students at UW

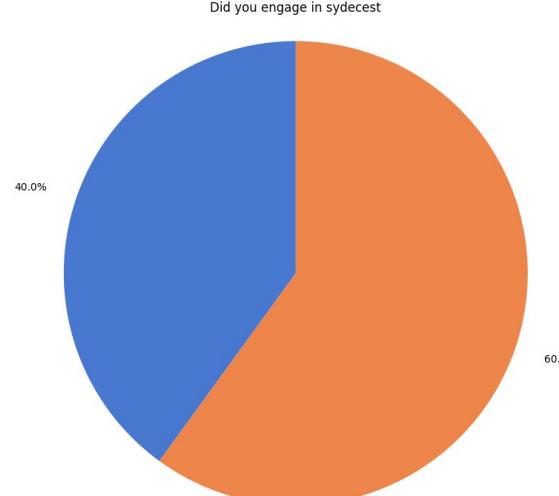


sydecest

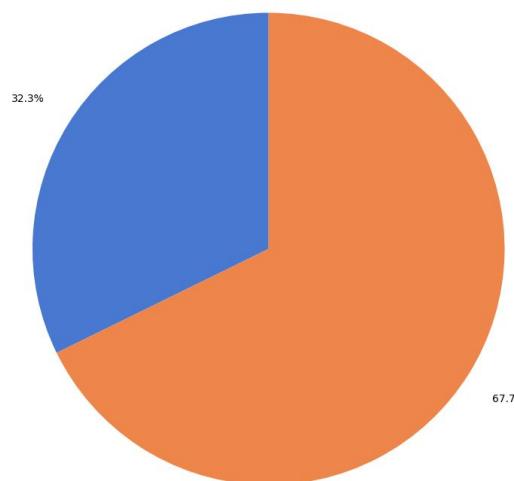
N = 55, N = 30

SYDEcest is a term where two people within the class enter a serious relationship with each other. Upper years have advised us to avoid it, since it causes potential tensions within design classes up until 3B.

40% of the class committed SYDEcest. Of the 60% who didn't, 32.3% of which wanted the opportunity to.



If you did not engage in sydecest, did you want to?



Legend
Yes
No

Legend
Yes
No

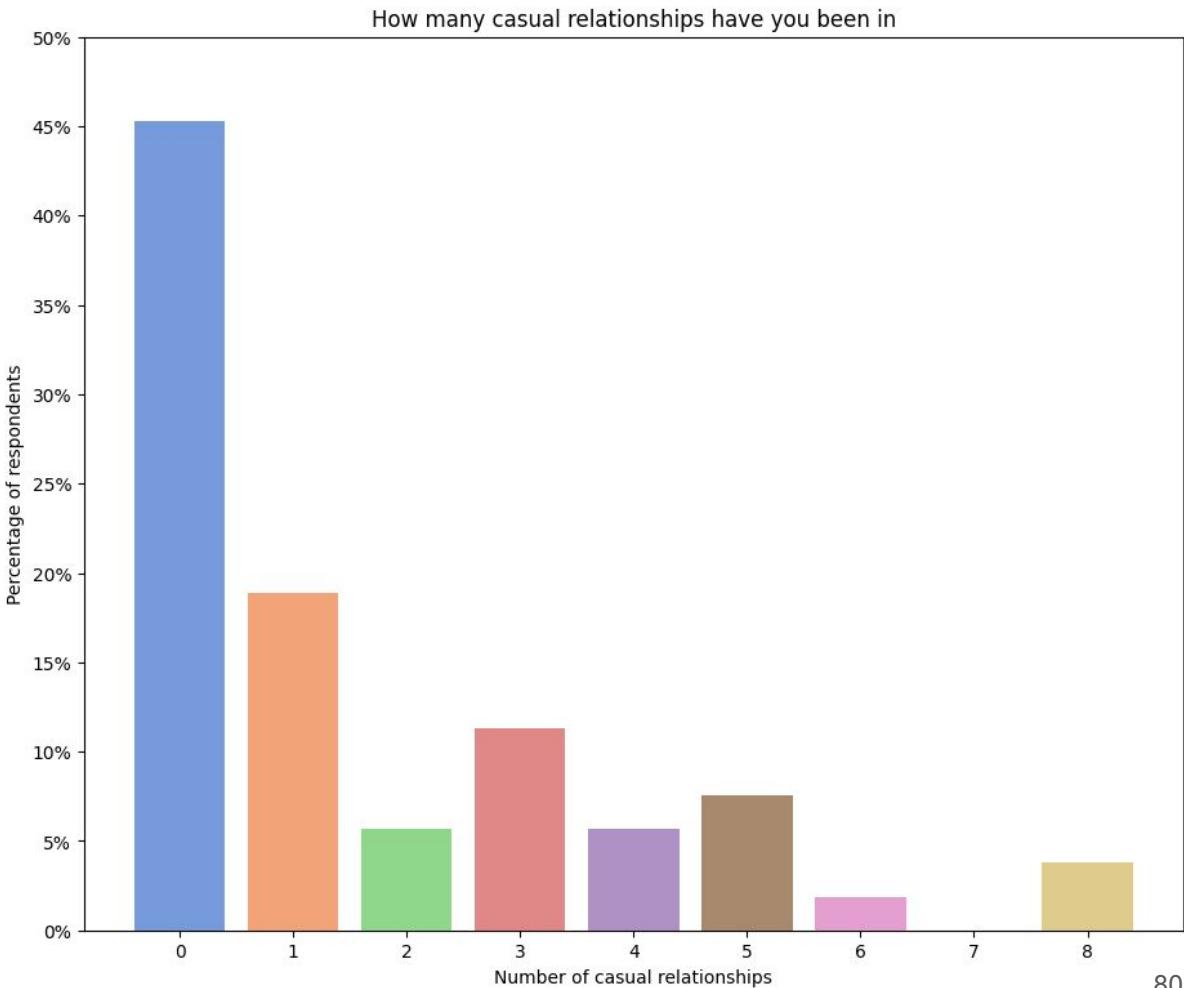
Casual Relationships

N = 53

Mean = 1.66 (with outlier removed)

A little over half the class participated in a casual relationship. One person claimed they participated in 50 casual relationships, but they were removed from the graph.

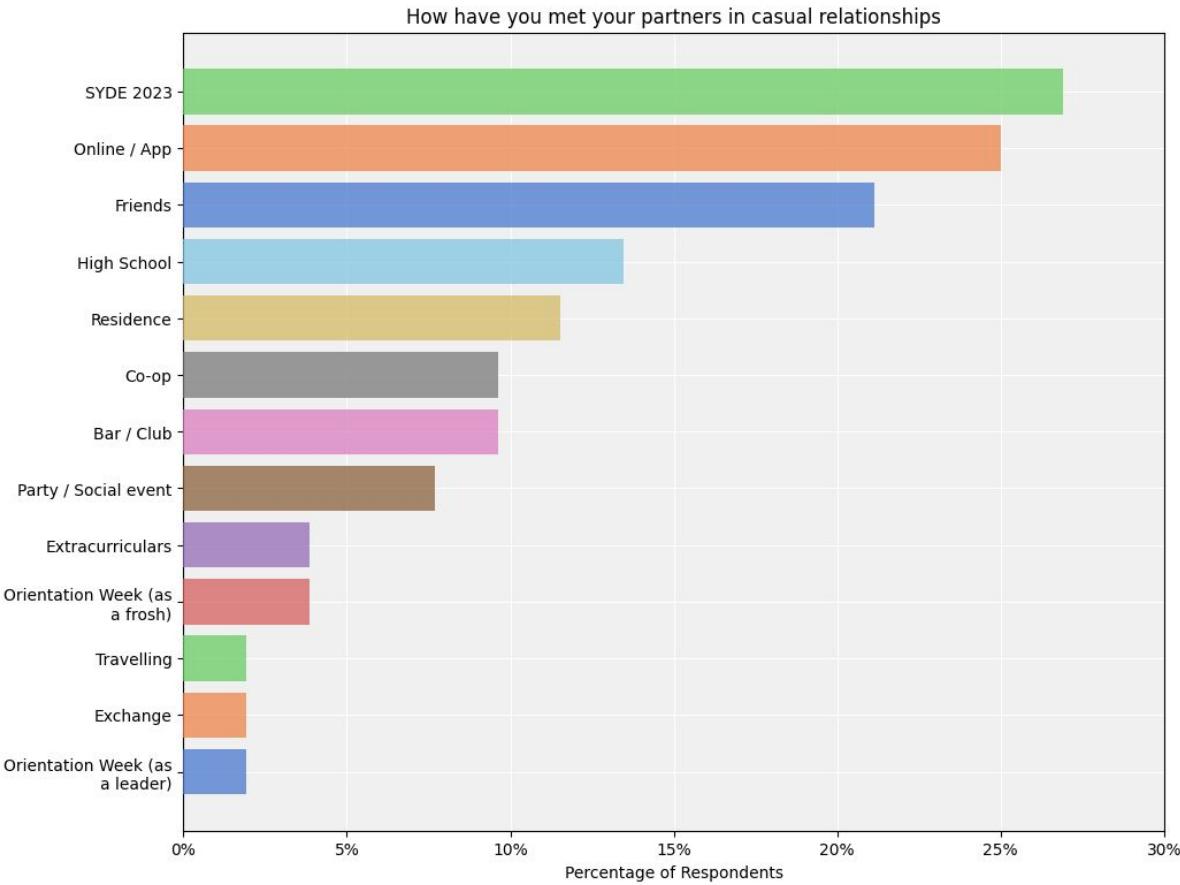
Casual relationships include: one night stands, fuck buddys, friends with benefits, situationships, sugar daddies / sugar mamas, etc. Non-serious relationships



Tinder IRL

N = 52

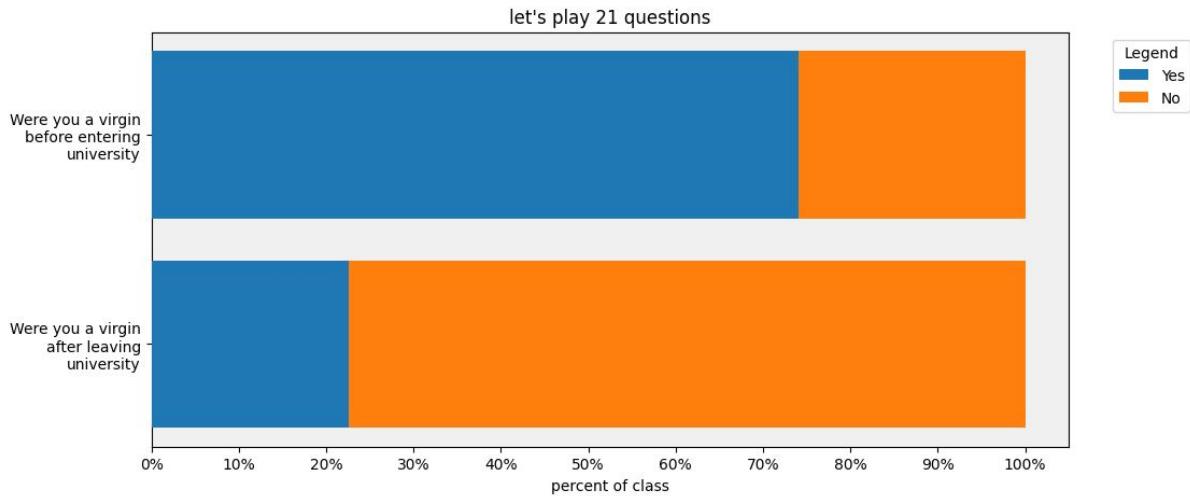
Meeting people for casual relationships seem to follow meeting people in serious relationships, however it seems to be more common to meet casual lovers at bars, parties, and on co-op.



v-card

N = 53

TL;DR: 74% virgins -> 23% virgins. You can exit the profile now



body count

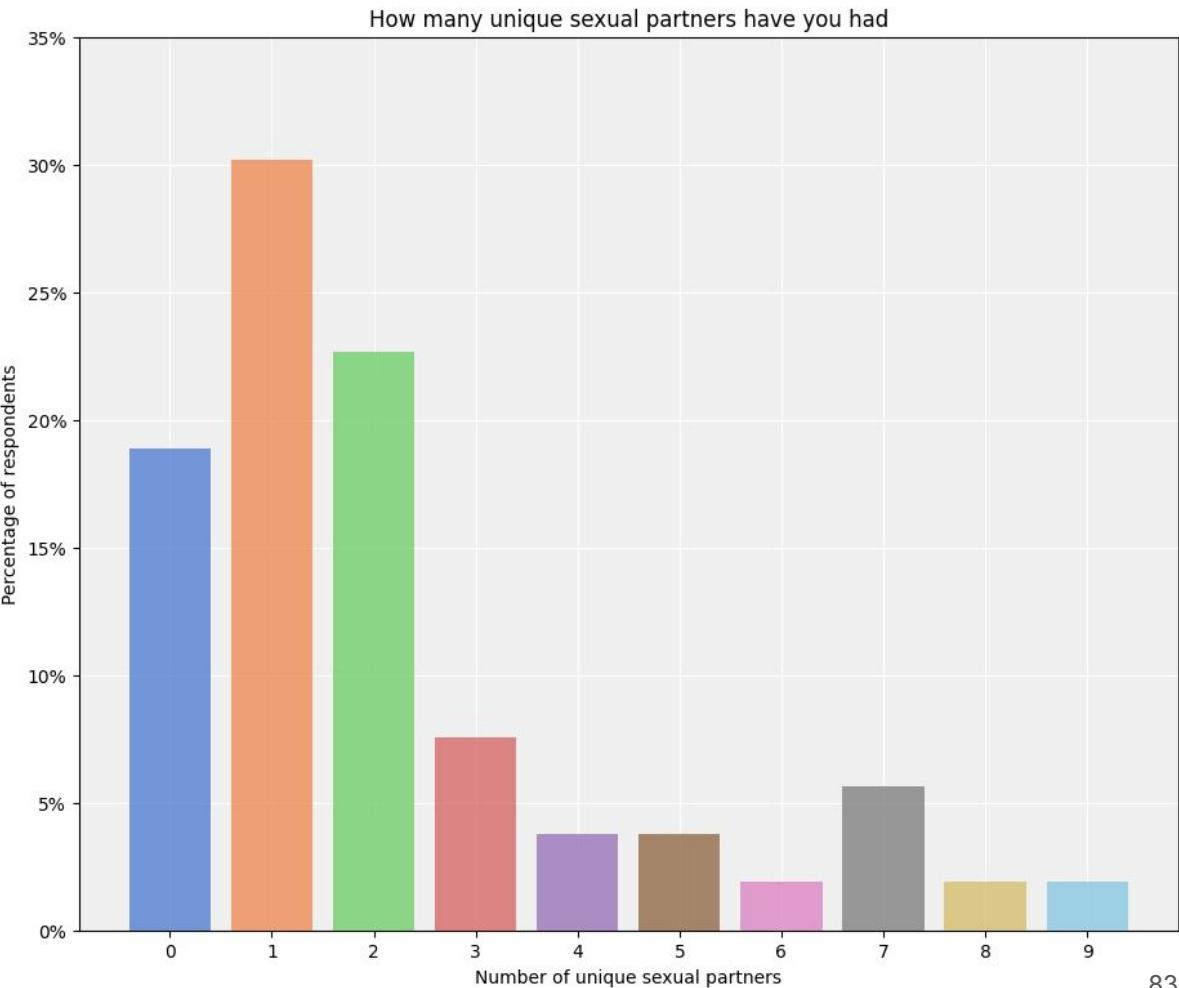
N = 52

Mean = 2.19 (outlier omitted)

Median = 1.5 (outlier omitted)

Men and Women had roughly the same amount of unique sexual partners.

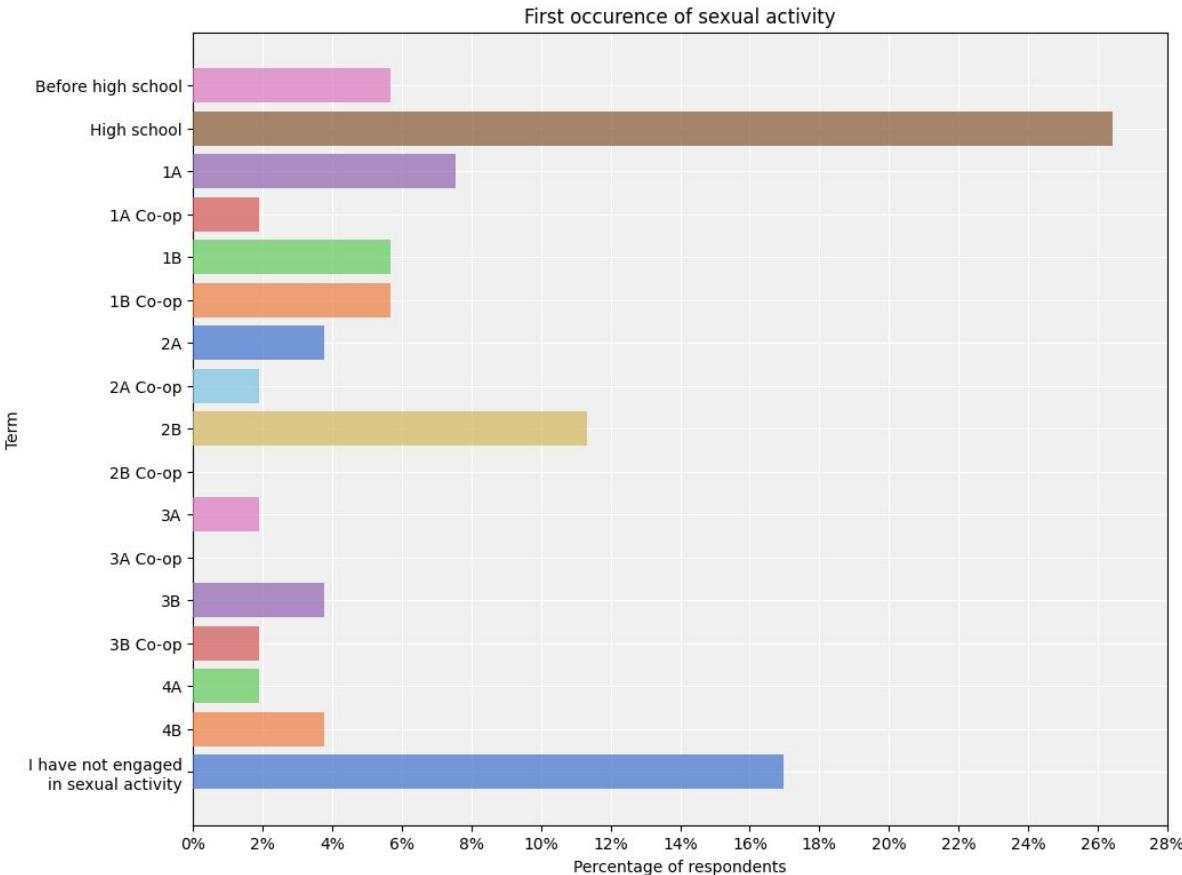
One person claimed to have 42 unique sexual partners, and was omitted from the graph.



sexual debut

N = 53

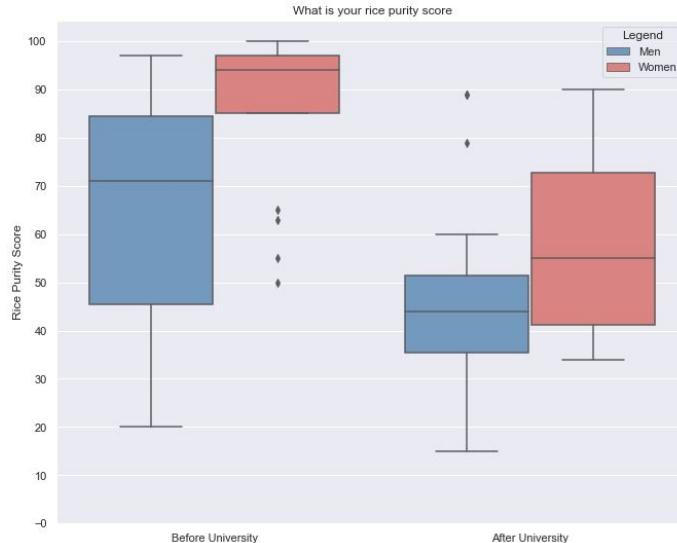
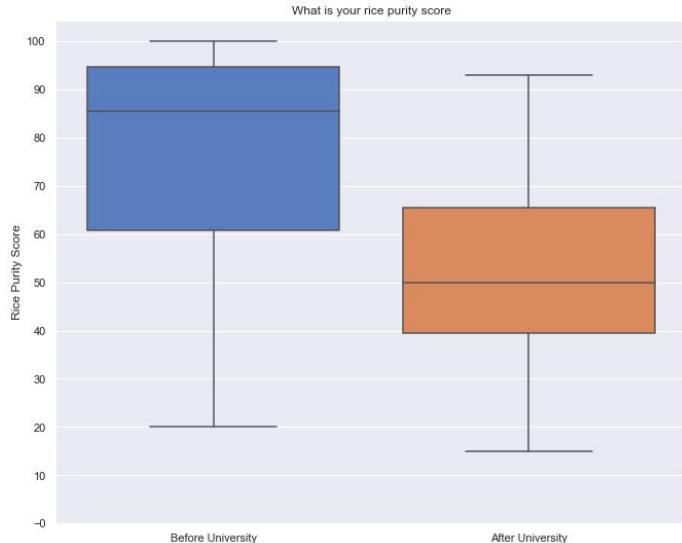
There is a notable spike in 2B, which was our first fully online study term during the COVID lockdown. 39 / 57 students reported living in Waterloo during that period, and (anecdotally speaking) there appeared to be many other students outside of SYDE who also moved down to UW during this time. It can be speculated that the extended social isolation from imposed by the Provincial and Federal government contributed to people seeking out others.



Rice Purity Score

N = 38

The average rice purity score fell from 76 to 54 between high school and the end of university. Men appear to have a lower median score compared to Women.



Rice Purity Milestones

N = 54

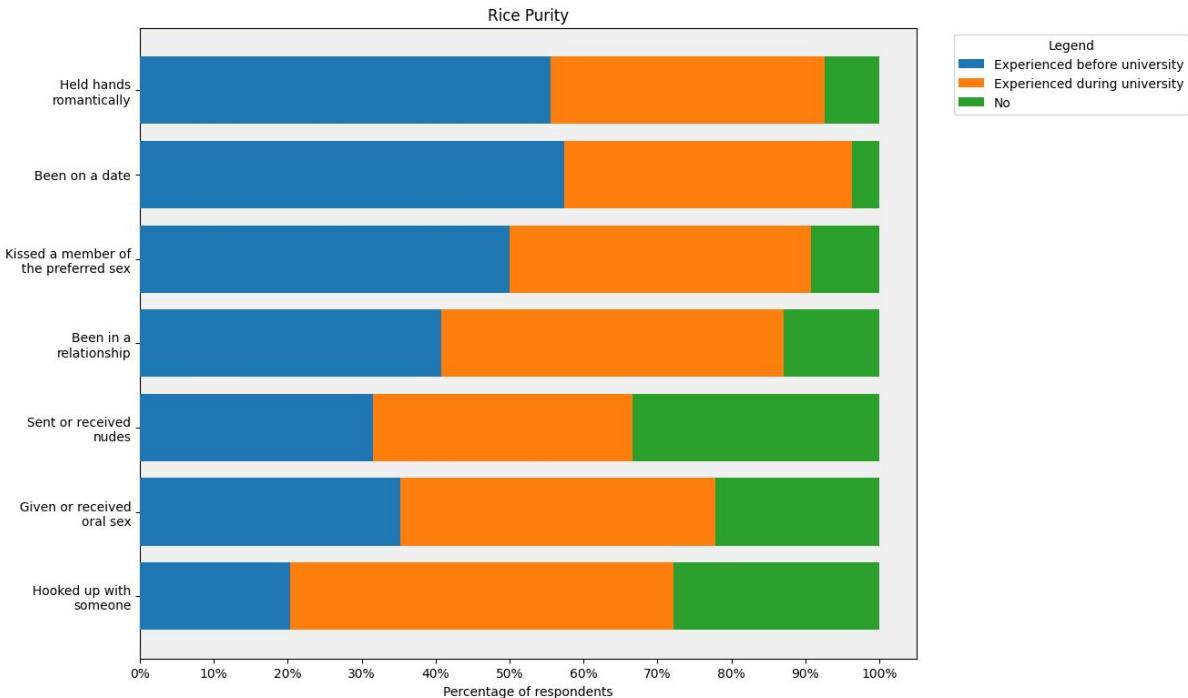
The Rice Purity Test claims that completion of all items on the test will likely result in death, but we seemed to have survived a few of these so far

42% of the class has blacked out from alcohol

30% have greened out from marijuana

25% have gone to class drunk

13% have gone to class high



Sexual assault

5 people in the class were sexually harassed

4 people in the class were sexually assaulted

These numbers should be 0. These numbers are far too high.

Future

“systems is how you view the world and design is how you change it” ~ syde promotional poster

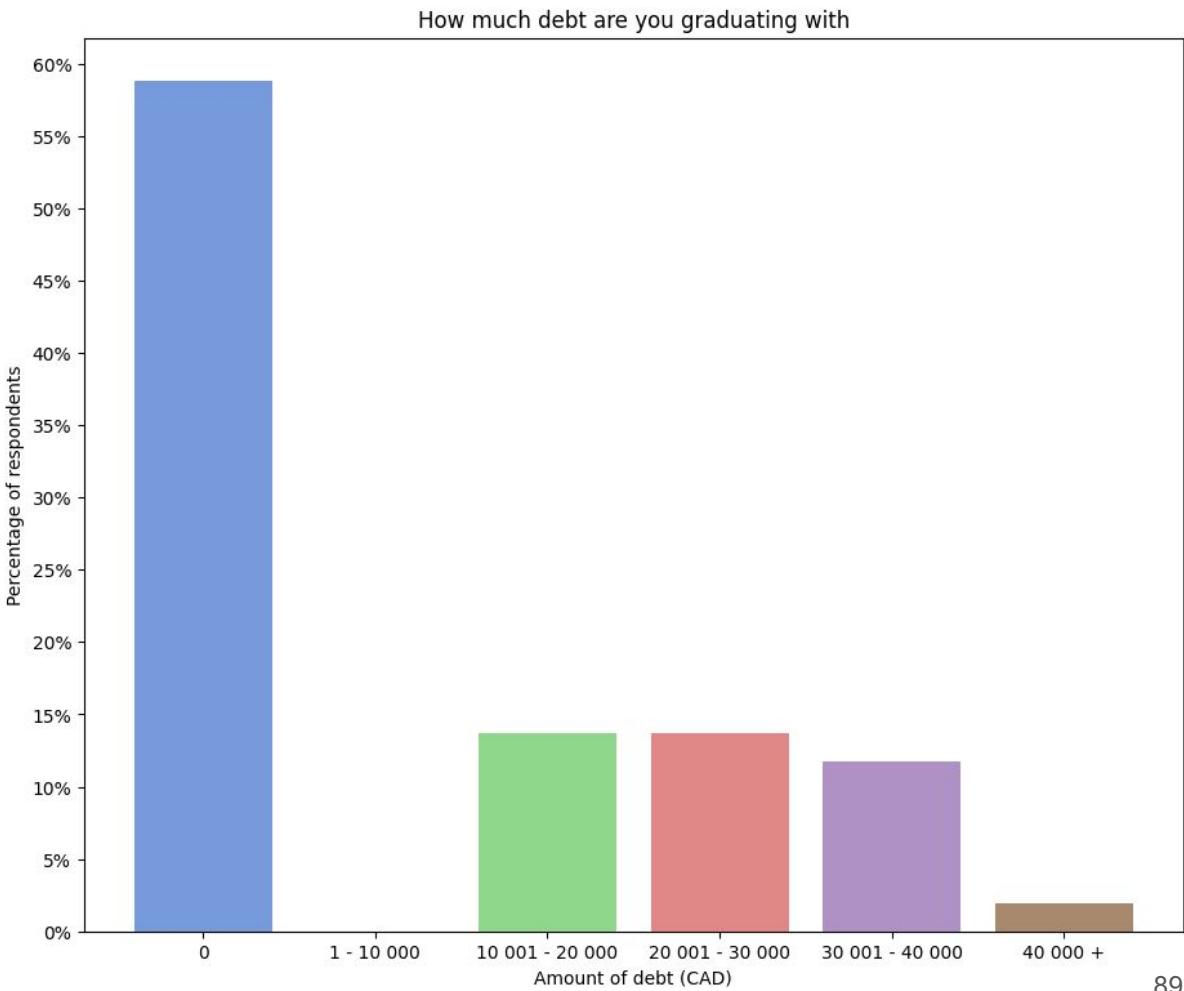


4A - FALL 2022

debt

N = 51

The majority of the class will be graduating debt-free.

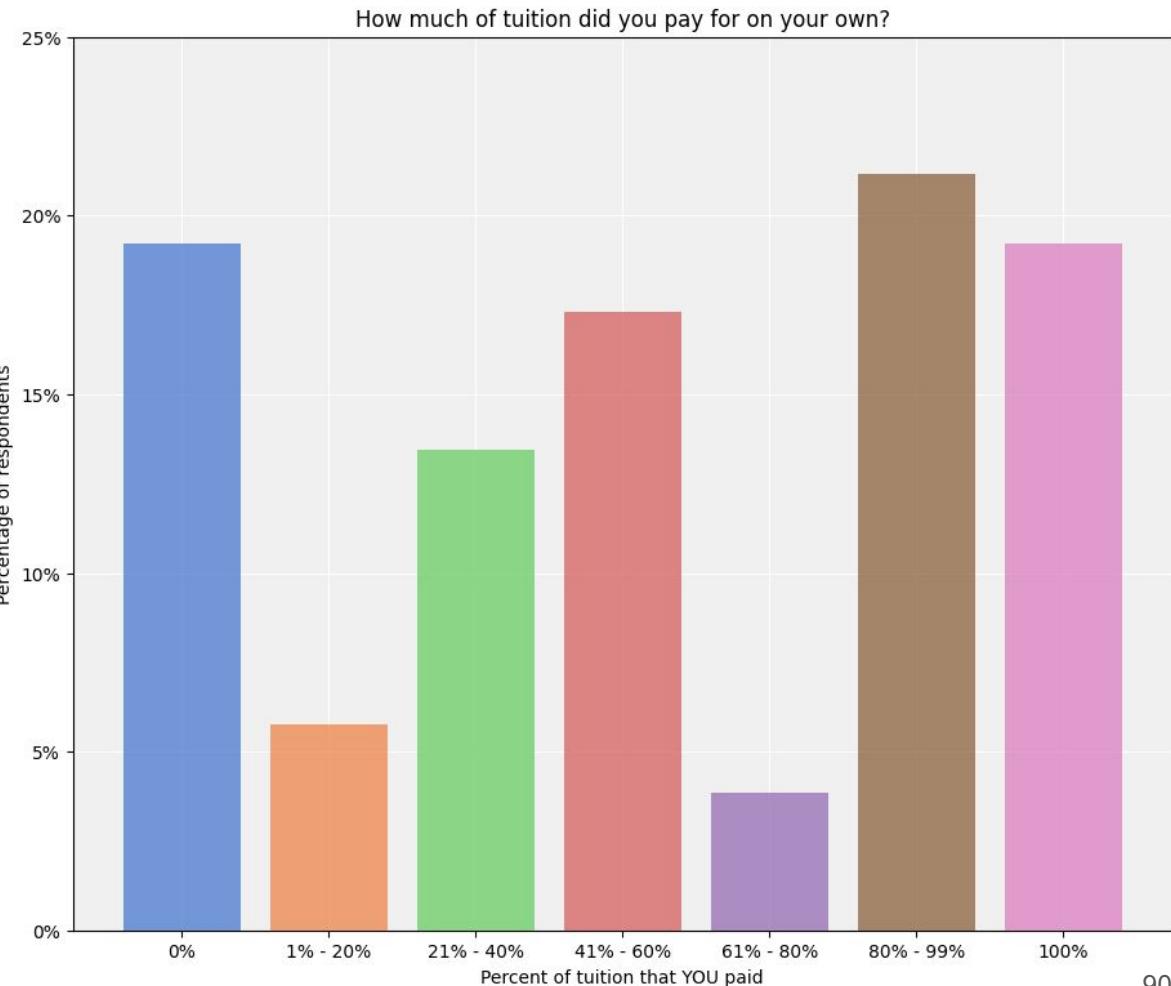


Tuition funded by you

N = 52

Around 19% of the class paid for tuition entirely by themselves.

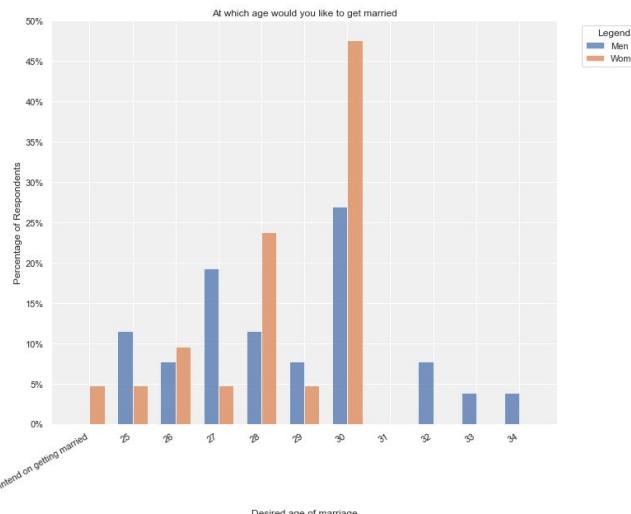
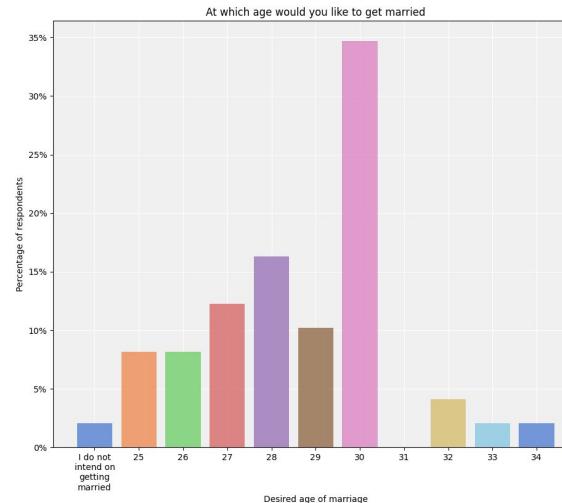
For 8 study terms, tuition on its own total to about \$58 000 for domestic students, before accounting for other fees and cost of living.



Marriage

N = 49

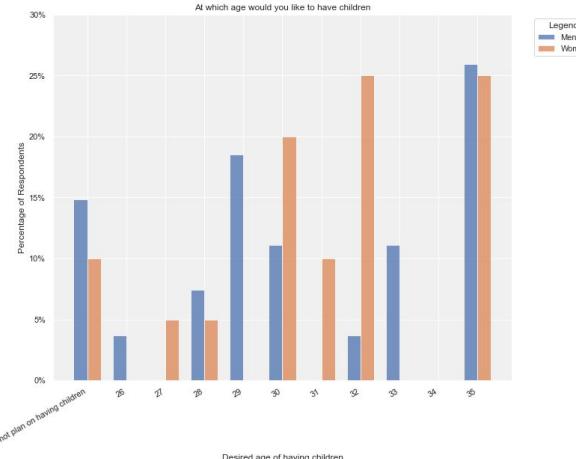
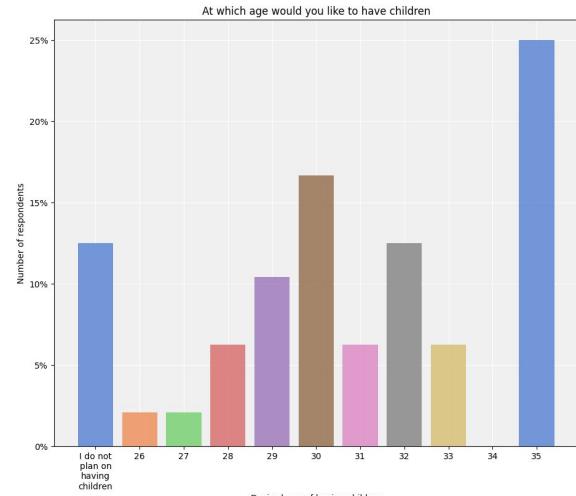
Men and Women would like to be married around 28.5. Almost half of women want to be married by 30, and women appear to not want to be married later than 30.



Children

N = 49

The class would like to have children at a relatively later age. Men would like to have children around 30 while Women at 32. The largest share of responses from both men and women is the age of 35



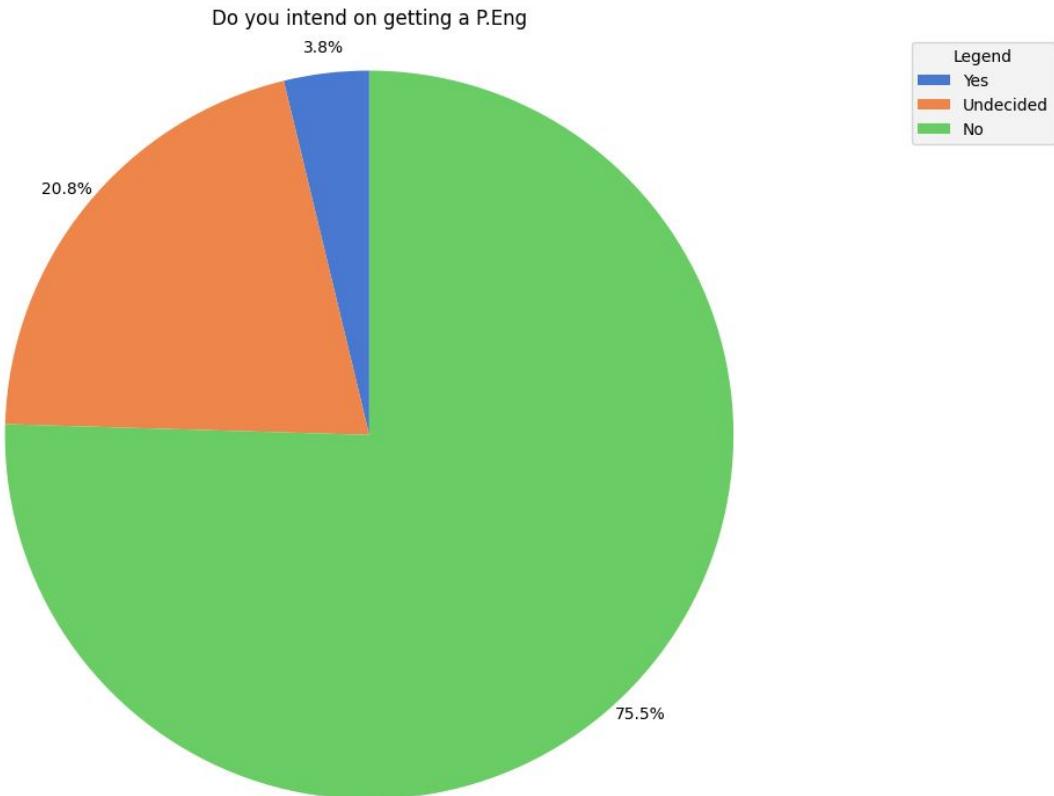
P.Eng.

N = 53

Only 3.8% of the class intends on getting their Professional Engineering designation.

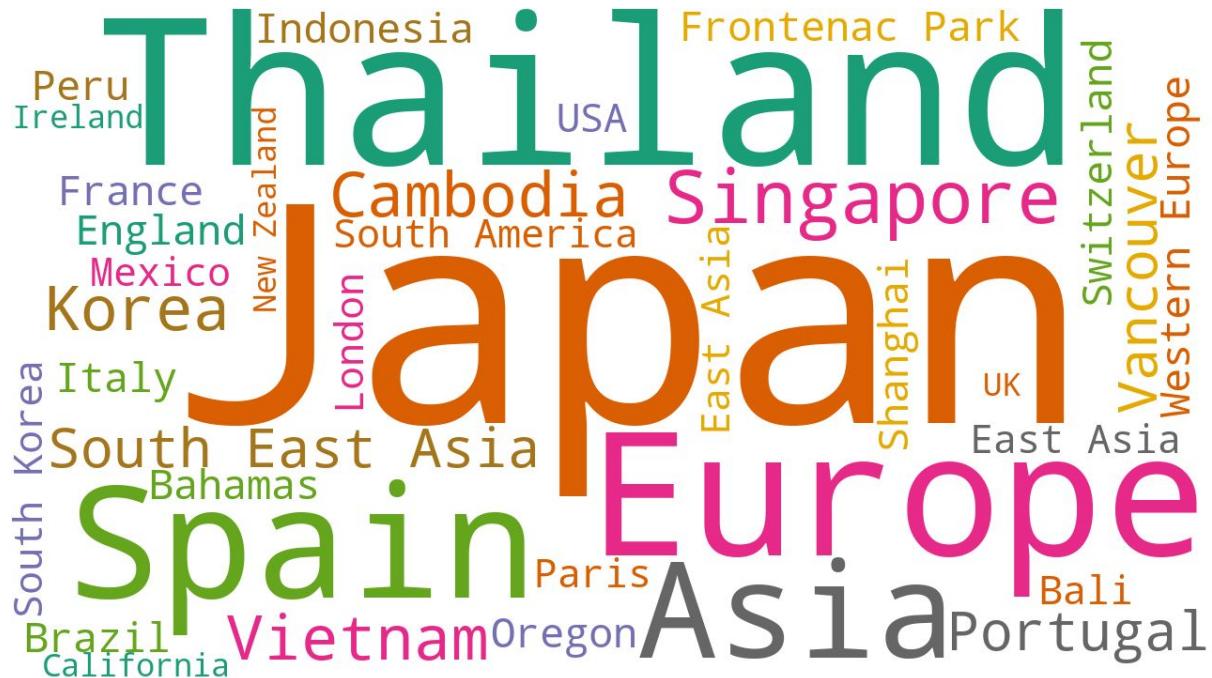
Many roles in the tech industry do not require people to have a P.Eng. in order to work as an “engineer”

Considering that traditional engineering subjects were not chosen in the disciplines of interest, this result is rather not too surprising.



Grad trip locations

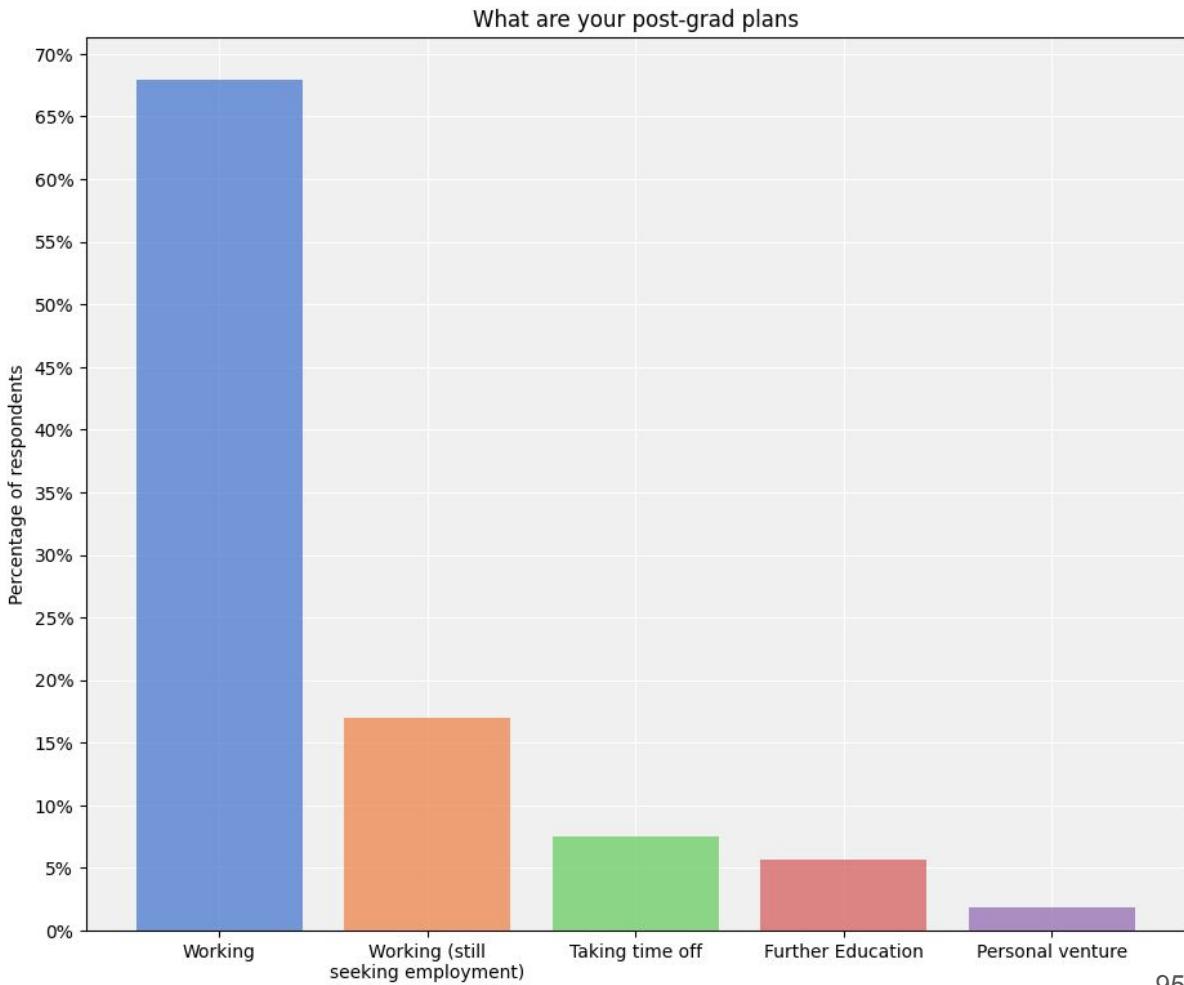
Grad trip locations were spread out across the world



Post Grad plans

N = 53

The majority of the class intends to join the industry after graduation

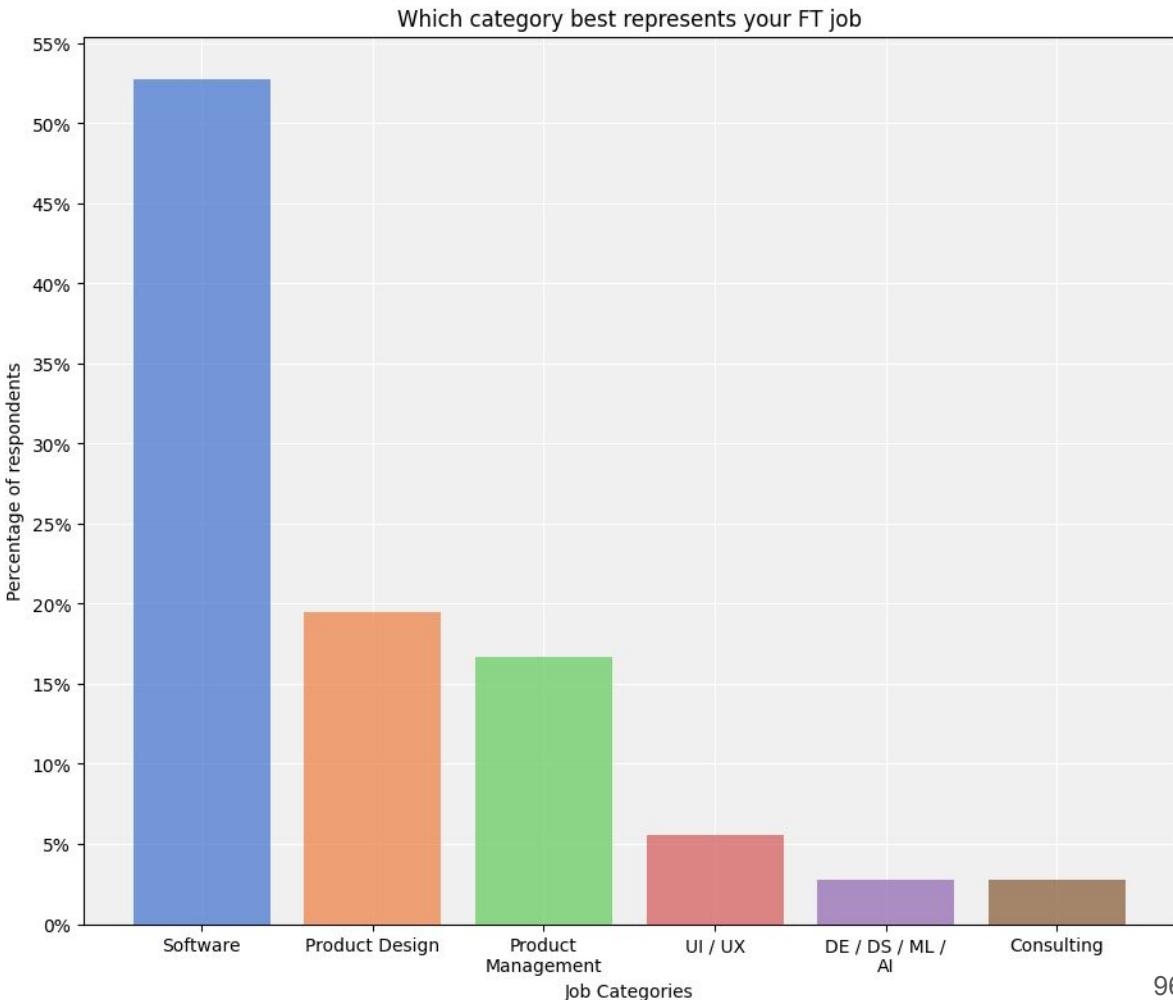


Full Time job

N = 36

Full time roles appear to follow a similar pattern to co-op roles

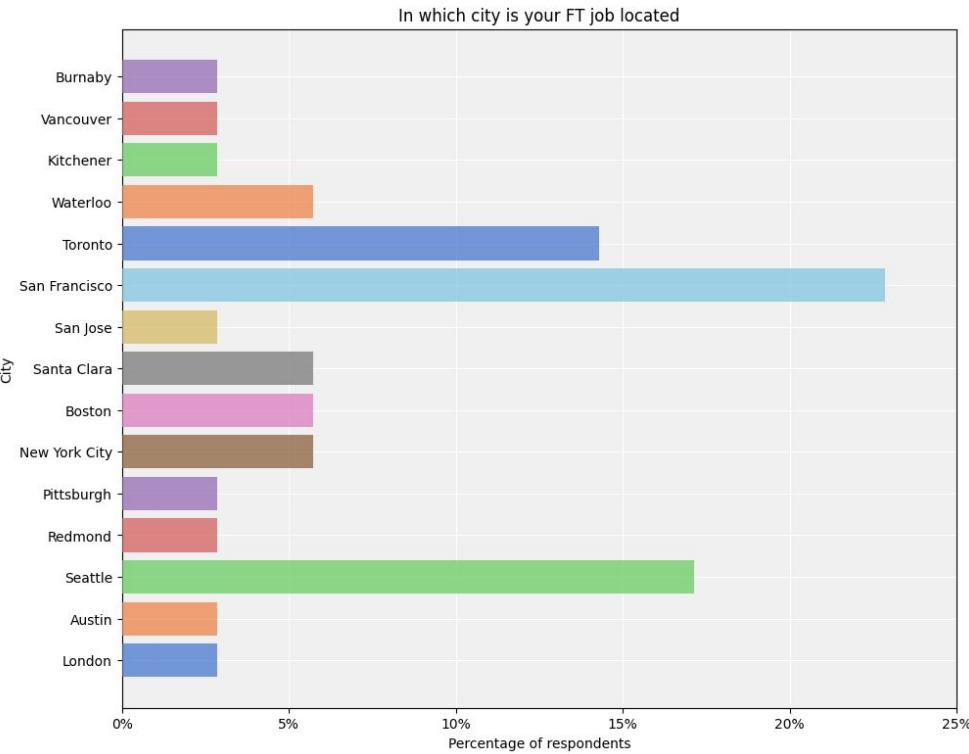
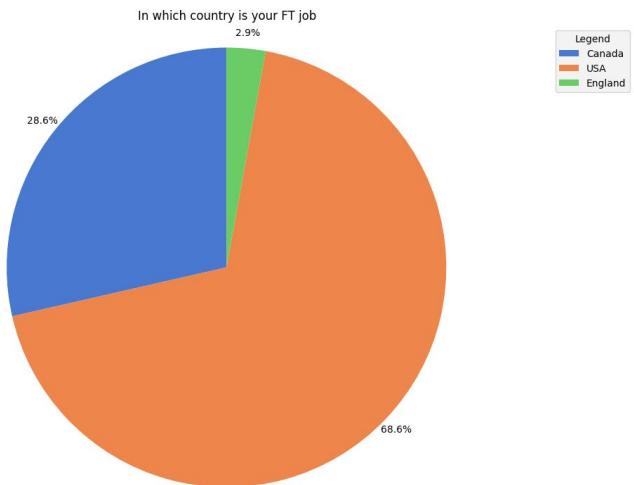
DE / DS / ML / AI stands for Data Engineering, Data Science, Machine Learning, and Artificial Intelligence



FT job location

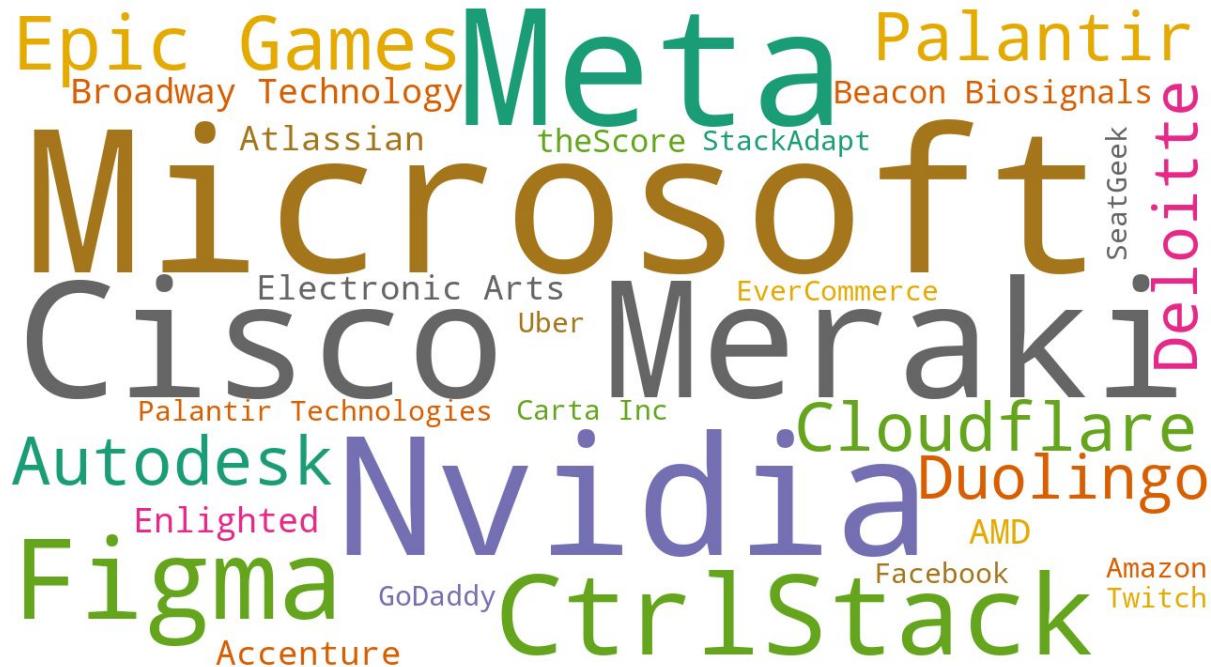
N = 35

A majority of the class will be moving to the US for full time employment



Full time company

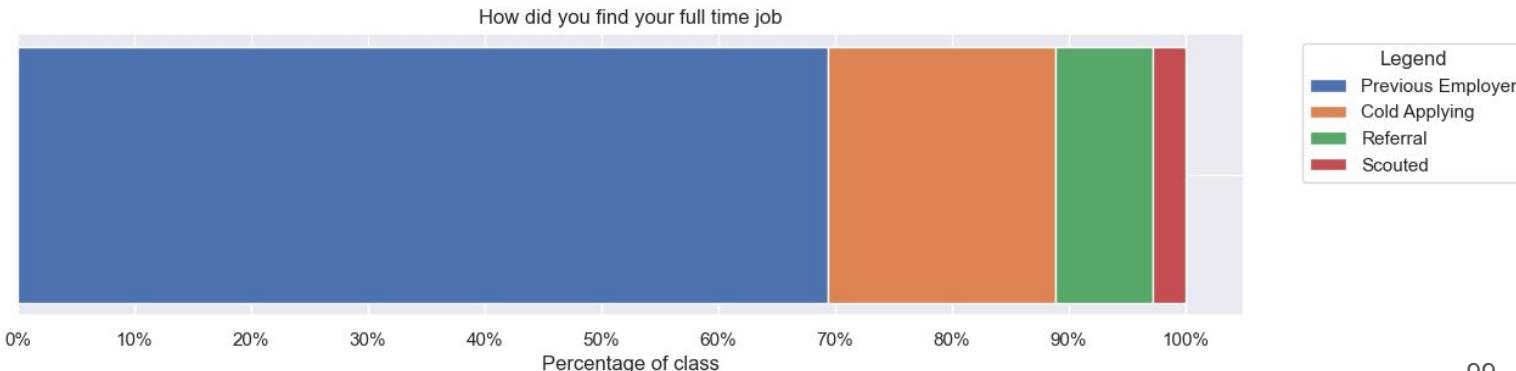
We will be working at many different companies for full time



How did you find your job

N = 36

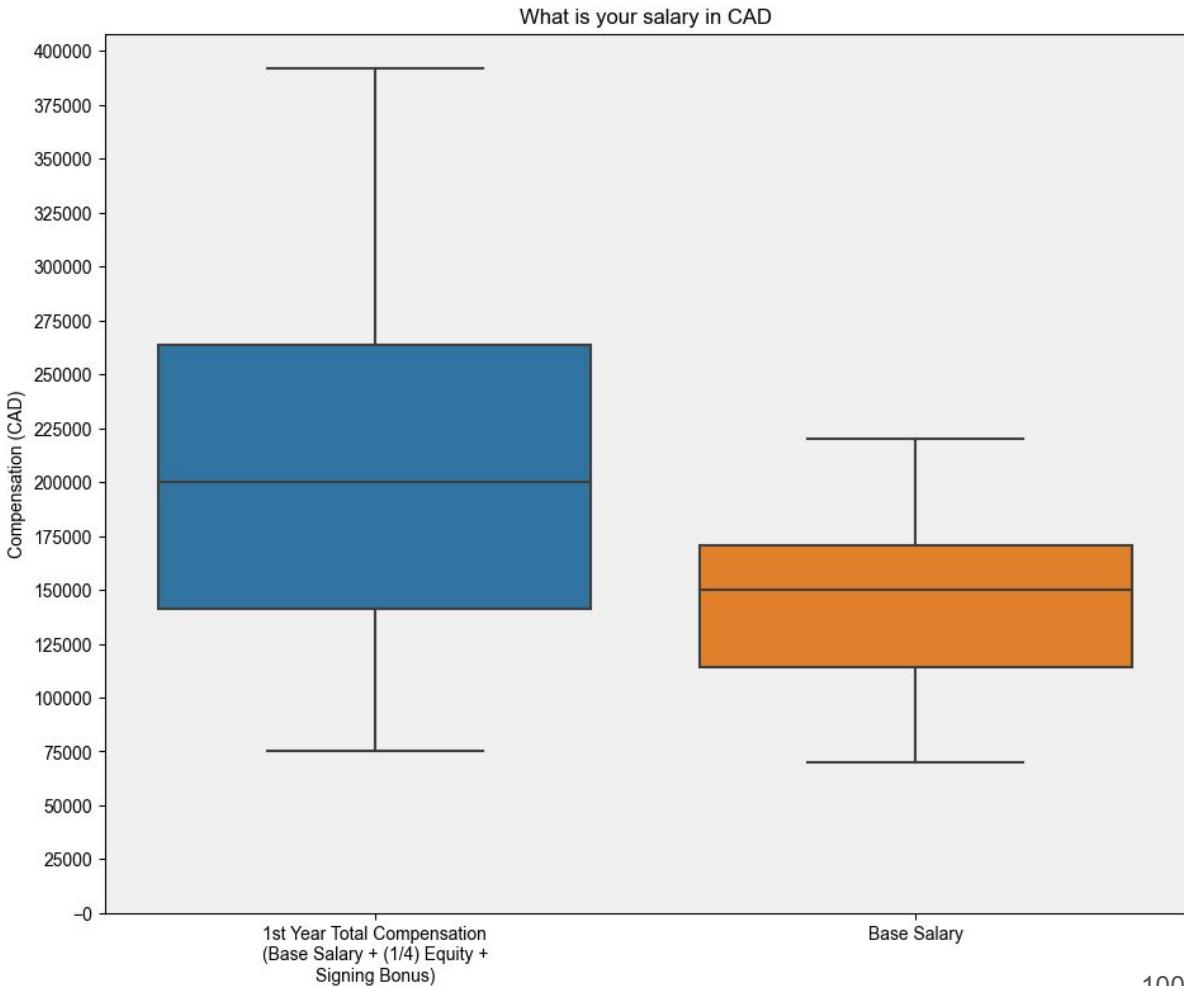
The state of the job market in the tech field is abysmal. Only 20% of the class who are working full time were able to secure their full time by cold applying. The “tech recession” was already making its mark in early 2023, so return offers and new grad positions were already scarce. Despite many claims of 6th co-op companies severely limiting return offers, many students in the class were able to return to some previous employer. The current job market (as of April 2024) is still pretty bad, but do not lose hope.



Full time salary

N = 35

The average person in the class will be making a median of \$150K in base salary, and \$200K in total compensation



Full time salary

N = 35

Converted to CAD, those who are based in the US will make significantly more than their peers in Canada. A continued brain drain from Canada to the US is happening, and it is showing up in the pay difference.

Canada

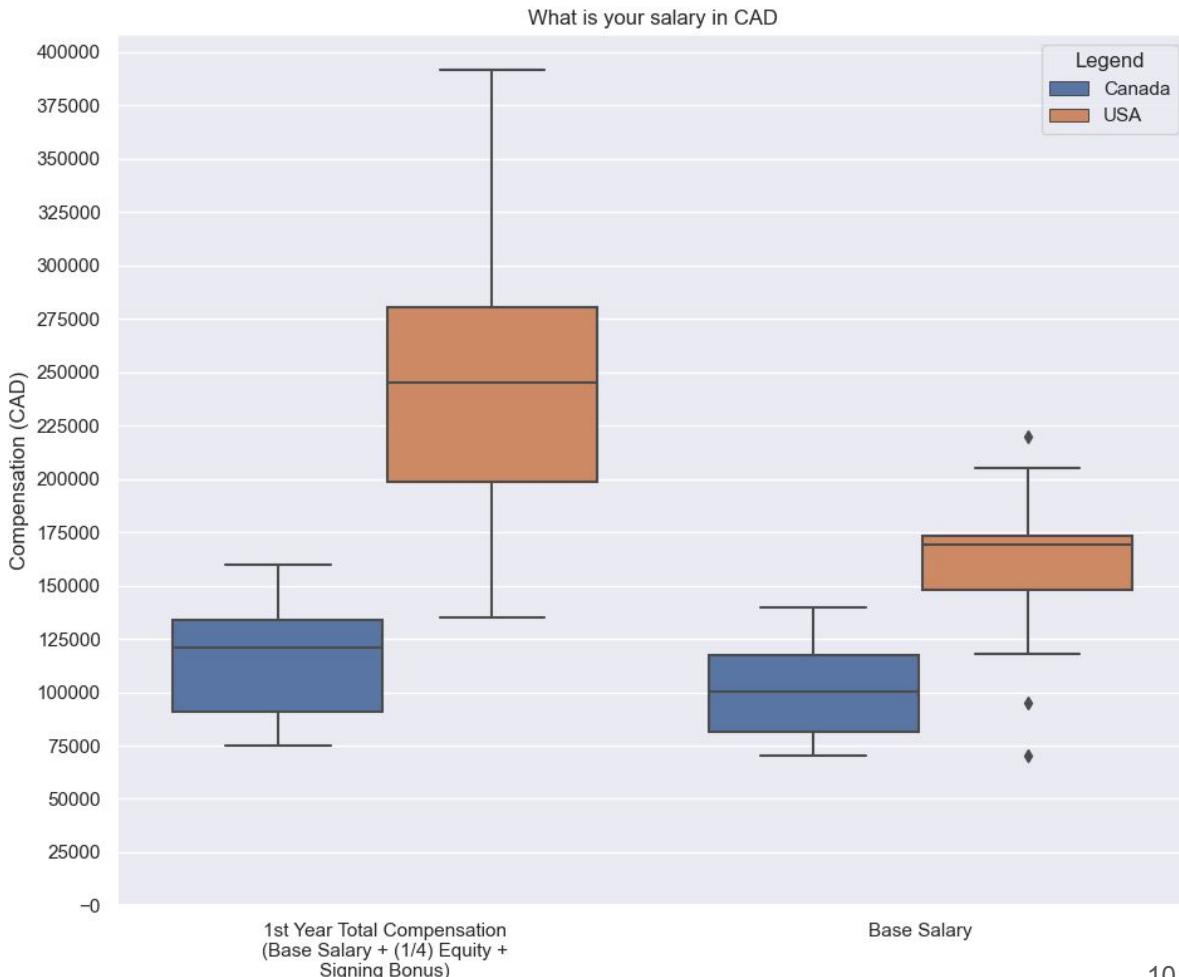
Median Base Salary: \$100K

Median TC: \$120K

USA

Median Base Salary: \$170K

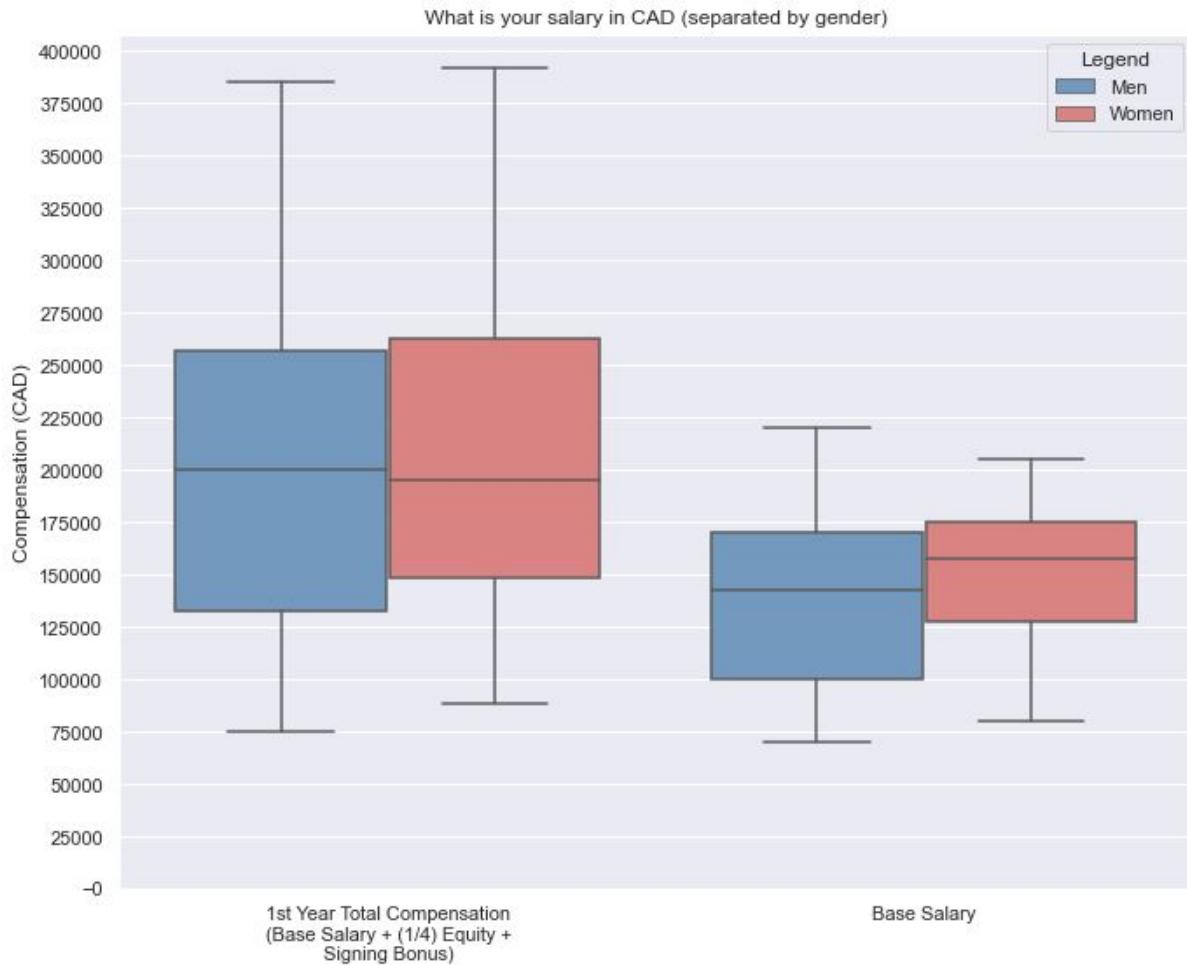
Median TC: \$245K



Full time wage gap

Comparing the pay difference for full time positions between men and women, there does not appear to be a statistically significant difference in wages between the two groups.

Note: This does not necessarily apply to the general state of jobs in tech / engineering, where wage gaps based on factors like gender may still and continue to occur systemically.



Return to Canada

N = 35

For those who are leaving Canada, many plan on returning within 3 - 5 years, while others are unsure of when (or if) they will return

Reasons given for returning to Canada include

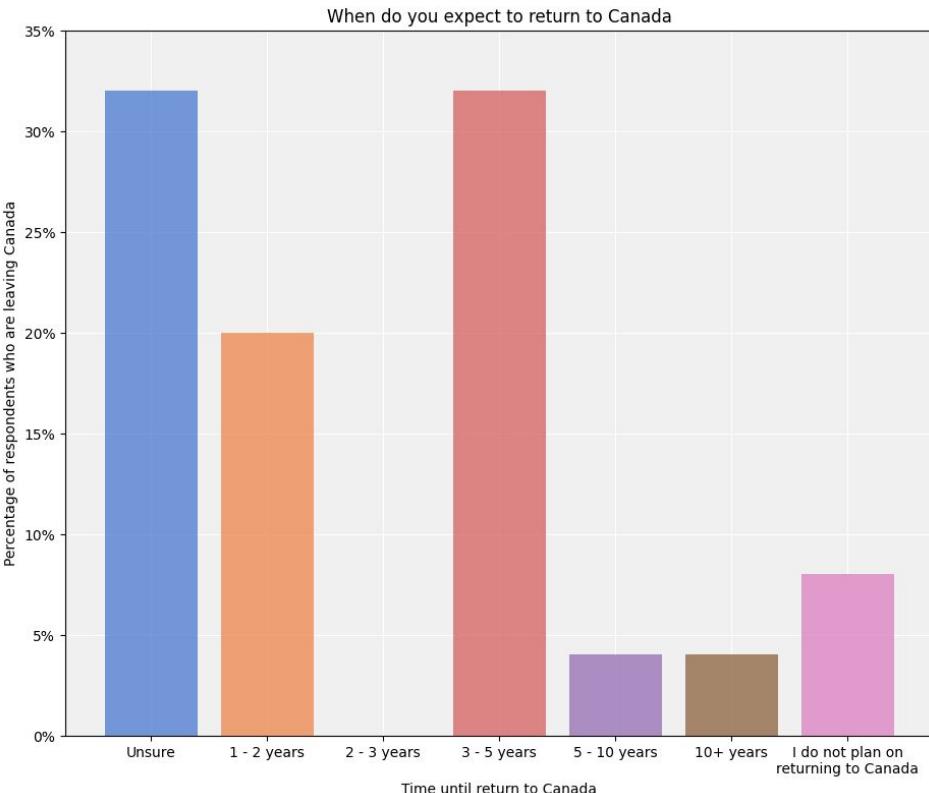
Reuniting with family and friends

Healthcare

Settling down

“Home”

Quality of Life



Further Education

3 people are pursuing further education

1 person doing a Masters in Systems Design Engineering at the University of Waterloo

1 person doing a Master of Information at the University of Toronto

1 person is pursuing a Diploma at Seneca Polytechnic



UNIVERSITY OF
WATERLOO



UNIVERSITY OF
TORONTO

Seneca
POLYTECHNIC

Reflections

“thank you for participating
in this user testing session,
the team will review results
in this iteration”



4B - WINTER 2023

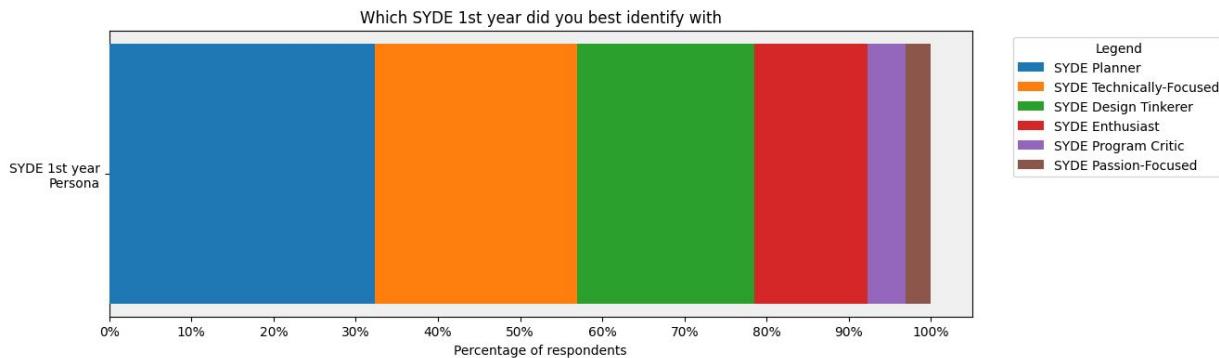
SYDE Personas

N = 65

In 1A, the class was introduced to Personas during our Intro to Design class, which are used to represent qualities of real users who may interact with a product. The class was given a list of 6 1A SYDE Personas Briefs and was asked to categorize themselves from the available options.

Personas for each SYDE year was developed by Professor Carolyn MacGregor, former SYDE undergrad chair, who graciously provided the team with the use of these personas. These personas were developed based upon years of observing SYDE undergrad students.

Detailed descriptions of these personas may be released in a future update of the profile.



Brief description of 1st year personas:

Planner: Has a lot of worries about SYDE and engineering as a whole, trusts advice of former mentors who suggested to pursue Engineering

Technically Focused: Enjoys the technical side of SYDE more than design, prefers solo work over group work

Design Tinkerer: Passion for creating, enjoys design projects with iteration

Enthusiast: Knows and enjoys how SYDE is structured, enjoys stepping out of comfort zone and getting a taste of everything

Program Critic: Wanted to go into another program instead but chose SYDE

Passion Focused: Passionate in a focused technical area

SYDE Personas

N = 62, N = 65

Brief descriptions of 2nd / 3rd year personas:

Career-Open: Open to trying different types of co-ops

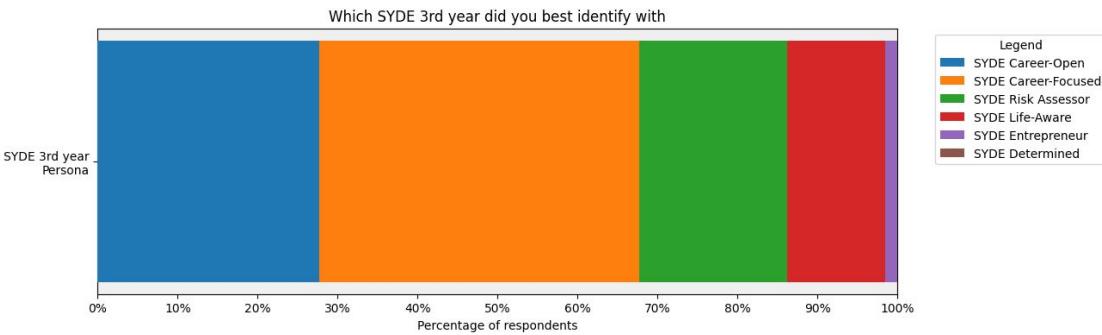
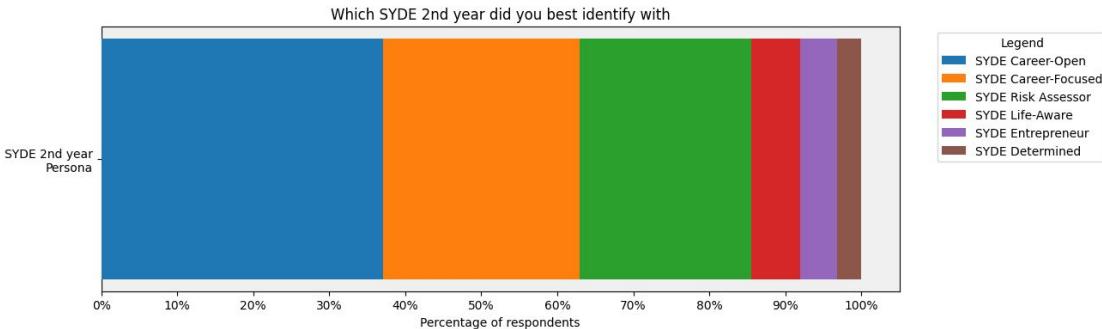
Career-Focused: Has an interest in a specific career path

Risk Assessor: Determined that SYDE is not the right fit for them

Life-Aware: Has life issues outside of academics

Entrepreneur: Looking to take a design project to business-level

Determined: Transferred from a different cohort and aiming to fit it



SYDE Personas

N = 67

Brief Description of 4th year personas:

Checked-out - focused on next part of life, trying to finish school ASAP and get out

Explorers - exploring different interests and enjoying it

Industry Bound - Found a job, no longer prioritizing grades

Jaded Course / Instructor - Disappointed with course or instructor

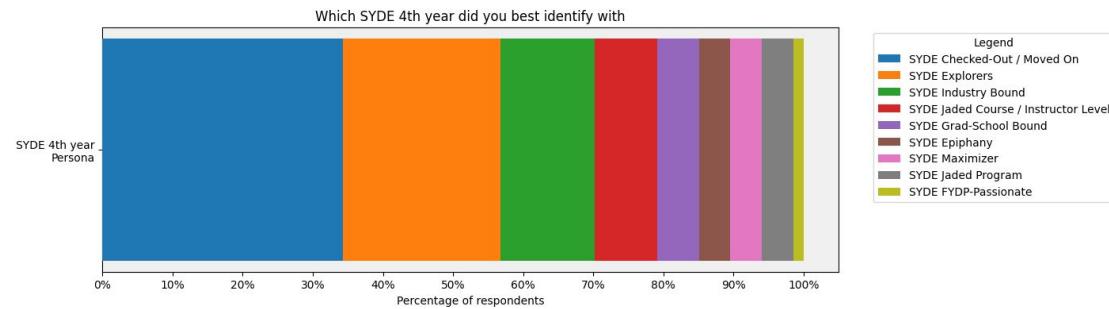
Grad-School bound - concerned with grades

Epiphany - understands how SYDE fits together

Maximizer - making the most out of their time left regarding courses and positions

Jaded Program - Disappointed in SYDE program

FYDP-Passionate - Has FYDP as their priority



Favourite Memory of Undergrad

“rafting with friends in Summer 2021”

“Sex?”

“Running at 5 AM”

“When Igor gave everyone Timbits”

“Meeting up with friends for food after exams”

“1B ASG”

“St. Patty's in 3B”

“Going to Phil's and the whole class being there unplanned”

“Playing Giant Jenga at 2am in the middle of the living room”

“OWeek 2022 baby!!!!!!!!!!!!”

“1B Syde Social (Waterloo Park)”

“Being an EdCom leader of Engineering Orientation”

“making class superlatives in my room at 5am”

“staying up with my roommates to drink and play cards during online terms”

“Chilling with friends apartment during covid. It was a HOT summer in Waterloo and we would gather at our friends place with A/C and just talk. Best time.”

Least Favourite Memory of Undergrad

"A professor alleging that I cheated on the calc assignment during our weekly interview, screw that"

"Feeling alone during COVID"

"Walking through knee deep snow for 45 minutes to get to work"

"Death of Igor"

"SYDE 283 Midterm"

"losing jobs due to covid"

"Pulling all-nighters most days of the week in 2A"

"Crying on my floor in 2B because SYDE 292 was kicking my booty"

"Packing up my stuff every 4 months"

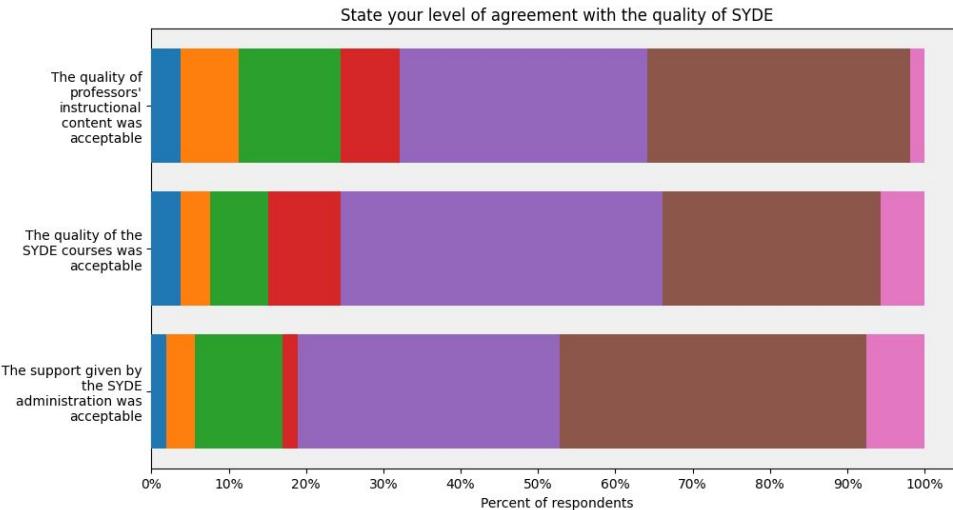
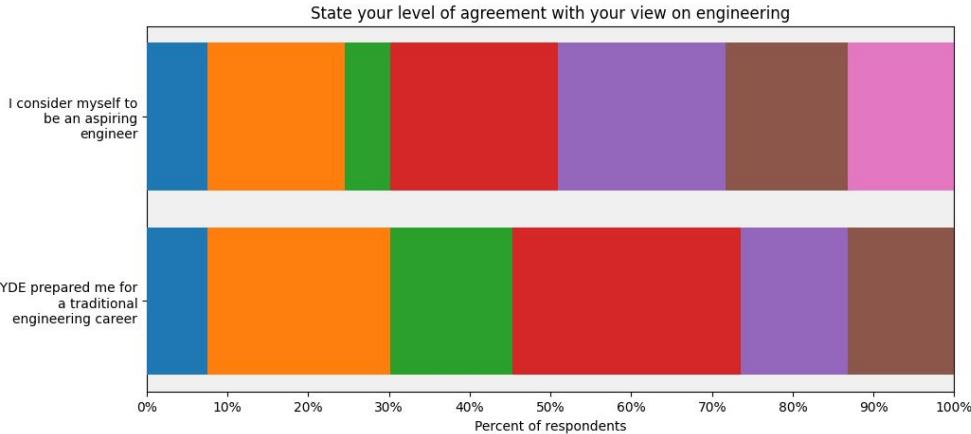
"In 1B, I had 10 SWE interviews in a single week of continuous, with one of those days spent entirely in the Tatham Centre. It was 1 AM in the SYDE Computer Lab when I found out the ranking results and I stared blankly into my laptop screen when I saw the 'Ranked' and 'Not Selected' results appear for every single interview I had that week. My two friends who were studying with me were the only ones left in the lab, and I asked them to leave as the lights flickered off. I cried my eyes out the moment they left and the room went dark. I wasn't matched with any of the 'Ranked' jobs, and downed a bottle of whisky all alone in my dorm."

"Going through a mental breakdown when my highschool social circle collapse/separated from me."

Feedback

N = 53

A majority of the class seemed to agree that the quality of the SYDE program was acceptable. However, a split of answers remains on whether our experience prepared us for a traditional engineering career. Core engineering courses held online during the degree may explain this reason

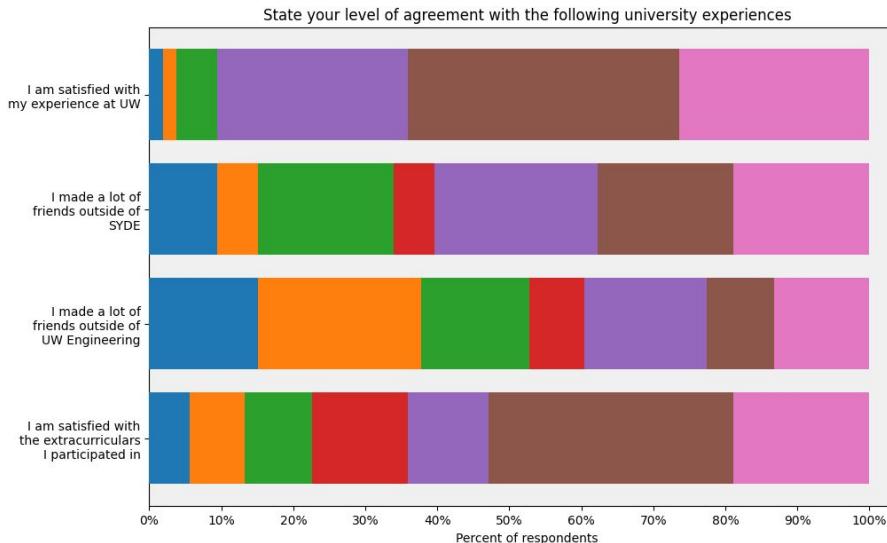
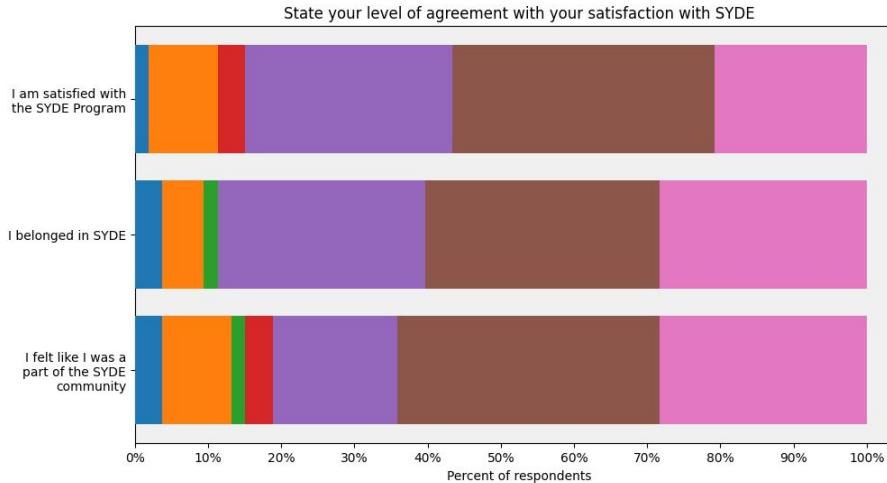


Feedback

N = 53

A majority of the class were satisfied with their experience in SYDE and at UW.

The class didn't make too many friends outside of UW ENG. The cohort system brought the class together, and there didn't appear to be any 'easy' way to meet students from other programs in your regular day to day

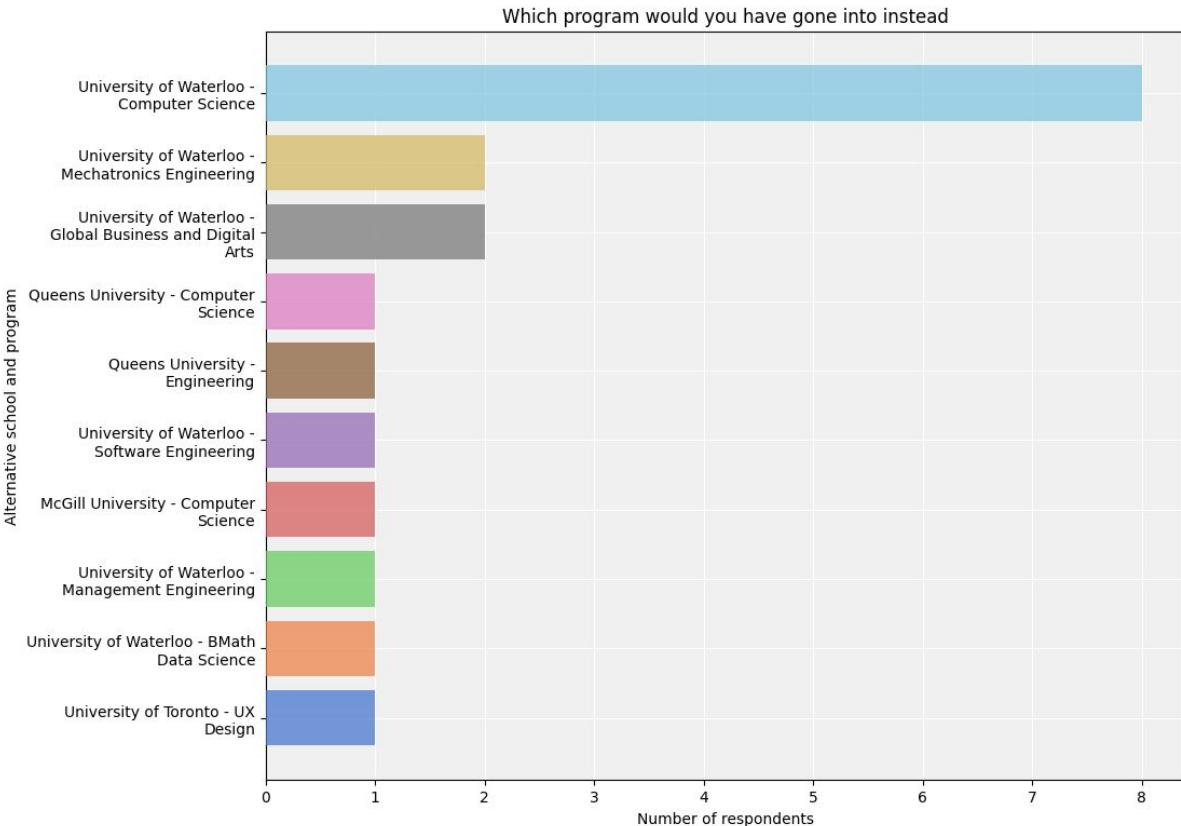


SYDE again?

N = 52

If the class went back in time, 35 / 52 would have chosen SYDE again.

As for the others who wouldn't, the majority of which would have switched into a computer science program, or into another program in UW



Advice to Younger SYDEs

“Make sure to get enough sleep! If you stay up late working, you'll be too tired to pay attention in class.”

“lower your screen time”

“A cliche but your undergrad is what you make of it! Join clubs that interest you, talk to people you want to connect with, and pursue passions that keep you up at night. Five years may seem like a long time, but you may never be in the same time/place filled with so many resources and like-minded people again. Glhf :)”

“Co-op is not a race. You should only compare yourself with who you were yesterday.”

“Party often, explore different jobs, and just pass.”

“Don't burn yourself out with extracurriculars and resume critiques and building personal websites just to get the 'best' co-op jobs at the most famous companies. You will waste time that should be spent socializing, making relationships, and enjoying the only years of undergrad you have. Go party!!! Learn how to have conversations with other students where you don't mention co-op jobs and resume points (it's boring and annoying). Have some aspirations outside of how much money you want to make in the future, and realize that the most important things in life are not related to school, or work, or money. Take an art class and unclench, with peace and love”

“Overloading is free and the overloaded course doesn't count towards GPA!!!”

“Find extracurriculars that interest you, and get doing them weekly if you can! There is never such a good time as university to meet new people who are passionate about the same things as you.”

Give some Life Advice

"wash ur ass AND inside ur bellybutton"

"Also, that person you're crushing on? Make the first move! I've never ended up regretting it, regardless of the outcome."

"Be the you that you want to be, do what makes you happy and spread love like bees spread pollen"

""I can fix them" syndrome negatively impacts your life more than you or the people around you can notice. The advice seems counter to societal expectations, but it's okay to "give up" on someone. I think a lot of people turn to fixing things as an escape (maybe that's why you want to be an engineer), but when that outlet stops working, when you can't help someone, you'll burst."

"Always piss after sex. You don't want a gonorrhea."

"Ask for help when you need it. Find a good therapist (I talked to three before finally finding one that I've been able to stay with for 2 years and make progress beyond the surface level shit.)"

"You are strong, and you will get through it. At the same time, allow yourself to admit that even the strongest person feels pain. Don't deny yourself the support, time, space, and occasional sobfest + ice cream that you need. I've pretended to be unaffected because it hurt my ego to admit that I was struggling. I've felt guilt and embarrassment for being sad, instead of facing and fixing the issue which won't just go away because you ignore it. There's no shame in being self-aware and acknowledging the pain you are feeling so that you can grow from it."

"Don't get into casual relationships unless you're 100% sure you can handle it. I thought I could."

"Impostor syndrome doesn't have to be what you think, or when- I started feeling impostor syndrome at the end of my degree because I felt that I wasn't meeting my own expectations for what an almost-graduate should look like. Just remember that at ANY TIME, everyone's just trying to work on their skills and be a better adult!"

"Take these formative years of your life as a challenge to try as much as you can and live however you want to, especially if something you want seems scary or "is not something I would do". You're still learning who you are and who you want to become!"

MORE PICTURES



Thanks!

And that concludes SYDE 2023's journey through Waterloo Engineering. Congratulations to us for making it all the way to where we are today. We hope you enjoyed this iteration of the class profile.

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If you would like to inquire about the methods and findings in this report, or are working on your own iterations your class' class profile and want input on how to organize a class profile, feel free to contact me at any of the links listed above

Special thanks goes out to the authors of previous class profiles (SYDE 17,18,19,20,21; BME 19,20,22; SE 18,20,21; MGMT 20,21; TRON 20; ECE 21,22; CS/BBA 21; NANO 21; MECH 22), especially **Nolan Dey** [SYDE 2019] who helped out with the previous SYDE 2023 COVID profile 4 years ago which was what this current iteration is based upon. Further thanks go out to **Jennifer Chen** [SYDE 2023] who helped with the development of graphs seen in this profile. Additional thanks go out to the SYDE department for supporting the class along the way from 1A to graduation.

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