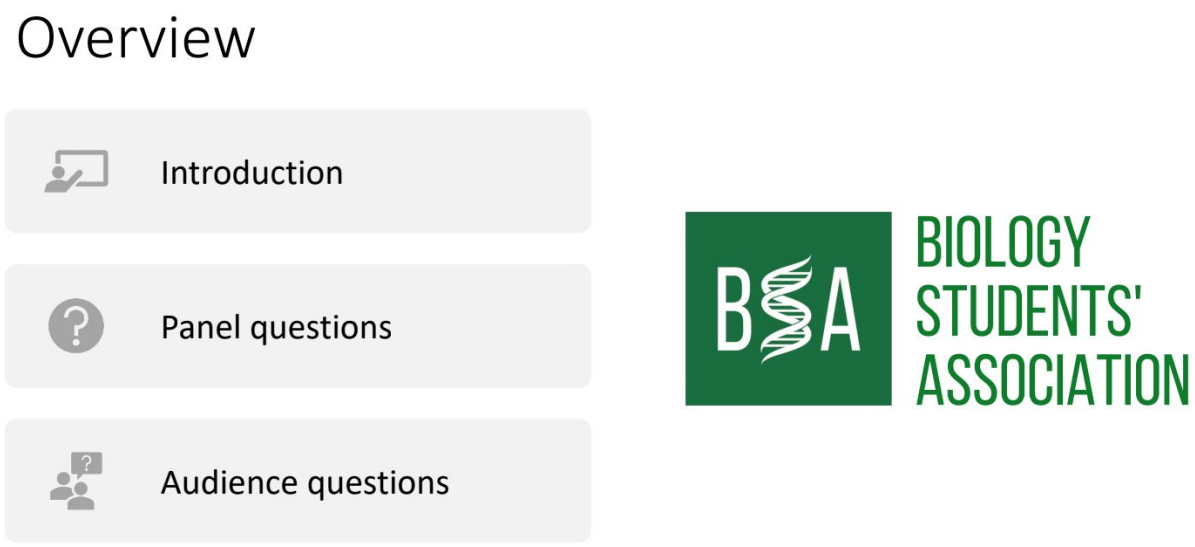
Choose Your Major Night

Transcript:

SAHEJ (EVENTS COORDINATOR):
Hi everyone! Welcome to "Choose Your Major Night"! My name is Sahej and I'm an event coordinator for the Biology Students' Association!

The objective of this event is to answer some frequently asked questions regarding the different majors within the Faculty of Biological Sciences, and hopefully allow people who are unsure about whether to transfer to a different major to become more informed prior to the transfer deadline this year.

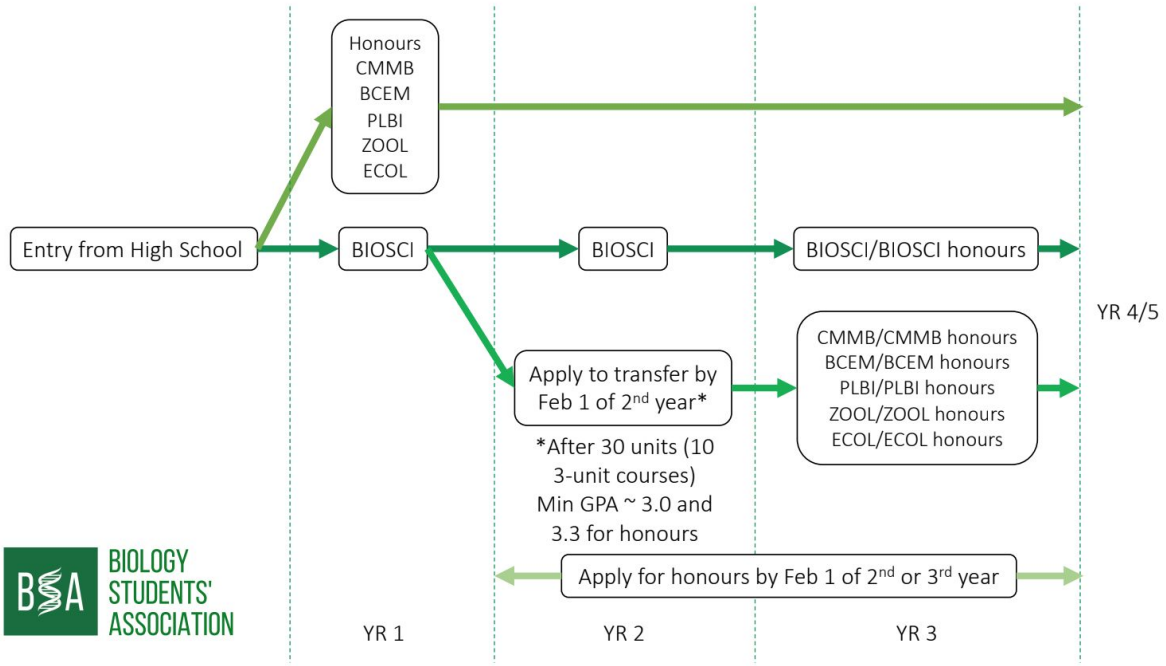
I would like to thank Dr. Addy for her amazing support, guidance and voice for the student body in Biological Sciences.



SAHEJ (EVENTS COORDINATOR):
Today, we will first introduce our program representatives, followed by panel questions. It will then be opened up to audience questions and networking!

- BCEM - Liam Guetg
- PLBI - Justin Nichol
- ZOOL - Hunter Kveps
- CMMB - Emily DeMichele

- ECOL - Emma Lait
- BIOL - Erin Dueck



SAHEJ (EVENTS COORDINATOR):

Here we have a general map about how students can proceed to transfer to a different major during their undergraduate degree. This year, you can apply to transfer majors or for honours before the deadline which is February 1st, ensuring that you have completed 10 courses by the end of the year.

GENERAL BIOSCI vs. SPECIALTY

BIOSCI

- Flexibility to build program around courses of interest
- Broad background in range of biological sciences fields

SPECIALTY

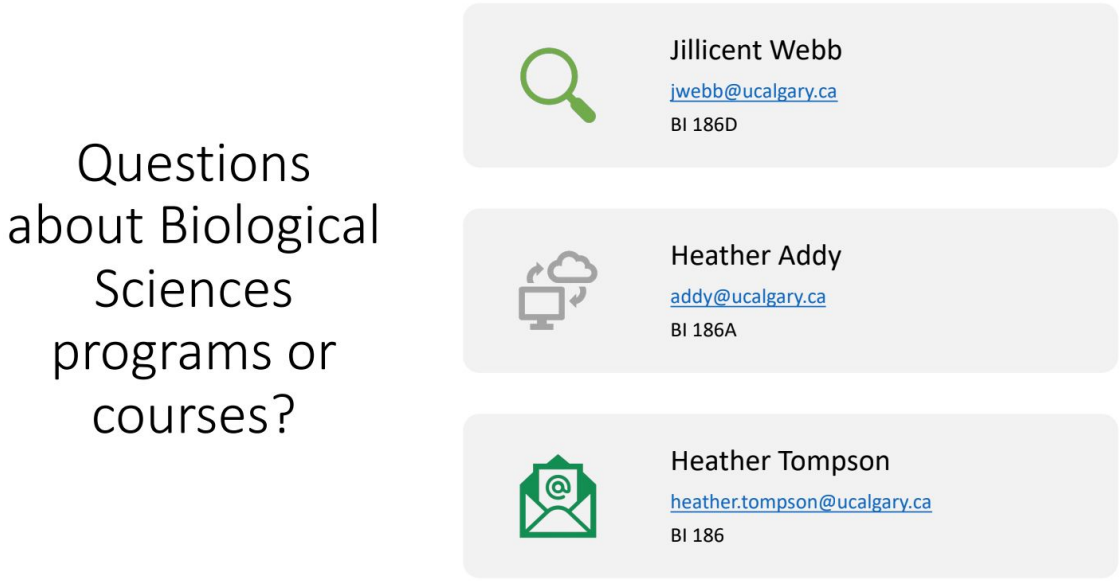
- Explore one field in depth
- Guaranteed admission in program courses
- Priority for summer research positions & 507/528/530
- Smaller community of students

Planning to Transfer?

Apply by Feb 1 (after completion of ten 3-unit courses)

Minimum GPA is approx. 3.0

Honours programs minimum GPA is 3.3



1) Panel Questions

    a) Could you each give us a short introduction of yourselves and why you chose your particular program?

JUSTIN (PLBI):
Hi, my name is Justin and I'm the Plant Biology program representative. I chose my specific program during "Comparative Biology of Plants and Animals" (BIOL 371), because I really enjoyed the plant section I was being taught and I really got into plants and I just wanted to take that further. And I just love it to this day. That's probably the one reason why I chose my specific major.

HUNTER (ZOOL):
My name is Hunter. I'm the Zoology representative. I'm doing an Honours Zoology program. It's my final semester. I chose this program because I didn't really know what I was doing. I transferred out of engineering, and I didn't really know what to do. So I transferred into Zoology because I was hoping to pursue vet school and zoology is a really good primer for vet school. I ended up really loving my program, the more classes I took in the program. It's a great fit for me. I really love animals. That's why I decided to do Zoology.

LIAM (BCEM):

My name is Liam, and I am the program rep for biochemistry. I chose my program because of the things you can do with it and the research opportunities available to students. What really interested me was the genes, yeasts, and bacterias involved with biochemistry. I think the things you can do with genetics is pretty cool.

ERIN (BIOSCI):

Hi I'm Erin, I'm the Biological Sciences representative. I just chose this because I'm kind of bad at making decisions and I figured if I could try out a bunch of different courses that was probably my best bet. I had a really good time experimenting with all the different disciplines and finding areas where I fit in and where I don't fit in.

EMILY (CMMB):

I'm Emily and I'm the CMMB representative. I'm a second year so I'm decently new to the program. The reason I chose this program is because I talked to a lot of people when I was in first year who were in it and I really liked the concepts about it. You can either go into cellular or microbial biology and I like things with cells and DNA.

EMMA (ECOL):

Hi, I'm Emma and I'm the Ecology representative. I'm in my last semester as well and the reason I chose this program is because I specifically enjoyed the concepts that were taught in BIOL 313 and BIOL315. I really enjoy the statistical approaches to biology and field work and that is what I've been doing for a lot of my degree and I really enjoy it so far.

b) What do you think is the biggest benefit of your program?

JUSTIN (PLBI):

I would say that it was the smaller class sizes, as we have grown bigger, I don't think that is as much as a benefit anymore because I think a lot of the other programs are smaller than plant biology now. But, you still end up being with the same people throughout your program and you end up becoming friends with them all and know them on a first name basis. Another benefit is that you don't have to take as many program requirements as some of the other programs do. It is usually the same three professors you see throughout the entire program, so you get very familiar with them. If you are interested in doing research, they already know who you are going into it.

HUNTER (ZOOL):

I'd say the biggest benefit of Zoology is definitely the breadth of things you can do in the program. I know a couple people doing 528/530s which are year long research programs and

they are all so incredibly different. No one is doing the same thing because there are so many different professors with a lot of different specialties. The research project I'm doing is about paleobiology. Other people are doing muscle biology, embryology etc. It is really wide so if you can find a professor that studies something you are interested in, you pretty much have a great scope of what you can do. You can also wiggle into any of the other programs professors except for plant biology. I know some people in my program doing research under CMMB, ecology or biochemistry. It's really broad and it's up to you how you want to shape your degree.

LIAM (BCEM):
For biochemistry I think one of the biggest benefits is the things you can do with it. You get a lot of lab experience, you can go out into industry, you can work at a biotechnology company. And there are a lot of research opportunities. You can study cancer drugs, there's lots of funding for that, you can definitely find a professor and can definitely find research in biochemistry

ERIN (BIOSCI):
I think that the biggest benefit in biological sciences is that you have an opportunity to practice a lot of different learning styles and can apply yourself in them in a lot of different ways. They are a little bit more relevant outside of school in some ways. You have a chance to work on soft skills, communication in teams and working with people that are in different disciplines and just trying to explain all the different concepts a lot more. I think that has been really great for me because I had to figure out how to explain what I'm thinking without just like word vomiting it out and I think that is something that can be carried out throughout my degree and my career.

EMILY (CMMB):
I think that the biggest benefit of my program would be being able to choose if you want to go cellular or microbial because right now in second year I am in cellular and microbiology courses so I am kind of getting a taste of both and next year I get a chance to decide. Even if you are in a specialized science field, you still have wiggle room to decide what you want to do.

EMMA (ECOL)
I think the biggest benefit for ecology is the field work aspect. You really get a sense of what jobs you can have out in the field and being able to experience different field methods. It is required to take a field course whether you take Bamfield or whether you take it in Kananaskis. I went into work in the field in the future. This degree has really set me up well for it. You also get a really good handle on statistical methods and data analysis.

c) What do you think is one downside of your program?

EMMA (ECOL):

I think the downside is that there's not a huge amount of courses available like I have three ecology branded courses that I'm graduating with. I'm taking ZOOL courses, general biology courses etc. but it's fairly limited in that way and a lot of professors have resigned so there is not a huge amount of professors available for research projects and everything but I found a good research position and a lot of other people have as well so you just have to know if you want to do the research route.

AYAH (CMMB):

I'm in my last semester of CMMB. I've taken tons of CMMB courses. I'd say the biggest downside to the CMMB program is it's very particular in the number of skills you are graduating with. You are very well equipped to work in a lab and that's pretty much it. You don't get a lot of different types of skills that are very marketable in the work field. So you don't get coding or stats skills that are more marketable. I think it is the biggest program other than the general biosci program in the biosci department. It is very competitive which means that a lot of CMMB students end up reaching out to professors at Foothills [hospital] and outside of the biosci department to get research opportunities and it is kind of cut-throat. There's a lot of people with really high GPAs and you really have to keep up. Also it is a very difficult program. If you're not the kind of person that can be up to date with your notes and skills and stuff like that you will fall behind really quickly. It's not something you can cram in a week and hope that it works out. You really have to be up to date on a lot of things and you have to be really good at not just memorization you really have to apply what you memorized too. It's not an easy program unless you really love it like a lot of people end up not succeeding in it because of that.

ERIN (BIOSCI):

I think that the biggest downside of just general biology is that you have to be really good at planning things. In your 2nd and 3rd year when you are planning out your courses you have to be sure that you can get through your 400/500 level courses that you need and a lot of those rely on 300 level courses that you might have thought you didn't need to take. So I think that quite a few of my friends have had to go back and take 300 level courses for their degree so they might not have as many of the 400/500 level courses that interested them just because they didn't plan it out. I think if you can meet up with a science advisor, they're a huge help in planning that, just 15-20 minutes every semester or something like that you can make sure you're on the right track.

LIAM (BCEM):

For biochemistry, I'd say it's pretty similar to CMMB, in there being a lot less options and more required classes and a lot of labs which are great for your lab experience but not always fun and

you have to do lab reports. That is probably one of the bigger downsides of biochemistry, just a lot of time commitment and you have to stay up to date with your classes.

HUNTER (ZOOL):
I'd say one of the downsides of zoology is that it can be pretty difficult to get a specific experience with a certain topic because one of the plus sides is that there are so many different ways you can go which also means there aren't a lot of courses on a specific topic. When you're graduating, you're graduating with a kind of general jack of all trades type of skill set. Unless you do research you're gonna have a hard time getting enough specific experience with a certain topic that would be a good asset

JUSTIN (PLBI):
One of the biggest downsides of plant biology would be the course selection. They are great courses that we have but there are so few that I wish there were more options that you could take if you wanted to explore a certain topic further, but I understand that there are only so many professors that can only offer so many courses. Another downside would be that you're dealing with plants, and if you don't like plants you'll have to deal with them for the rest of your life unless you are planning on just focusing on lab work.

d) Discuss whether you were involved with research and opportunities available in your program.

JUSTIN (PLBI):
I'm currently working in a lab with Dr. Samuel. I'm doing a 530, which is a year long research course where you do your own proposal and work through your research and by the end you'll have to present in front of your PI and other professors and they mark you on what you accomplished in your semester. You also have to finish a lab paper. I have also done two 507's. Basically what they do is they allow you to go into a lab and let you experience what a lab is all about, the intricacies and all that- you get to work alongside Phd candidates and masters students and postdoctoral fellows and you really get to take in the knowledge that they have. Everyone that I have dealt with has really been able to share their knowledge and help me out. If you have a question they'll answer it, they are very open about that. If you want to end up going into a graduate program or do research for the remainder of your career, they are always a good way to interact with professors.

HUNTER (ZOOL):
I'm also doing a 530 right now. I liked Dr. Jessica Theodore, she's a paleontologist here, I had a class with her and I really liked her teaching style and her approach. I had no idea what I

wanted to do for research, so I just kind of approached her and was like “Hey do you have any positions in your lab?” and she managed to make it work. So far it's been really interesting. It's also been difficult, there's a lot of problem solving that goes into it, my project has changed a fair bit since I started and that's just because of the time constraint of the year. I mean when you are doing research as your career you are gonna have a little wiggle room for the due dates. But when you are submitting for a university course, it requires a lot of problem solving and trying to figure out creative solutions. The most beneficial thing is that you could learn as much as you want about a certain topic in your classes. Doing a 530 is definitely worth it. Definitely seize that research opportunity, you are getting a lot of skills you wouldn't otherwise learn.

LIAM (BCEM):

I am in my third year right now and I haven't had the opportunity to do a research project yet. But I have found a professor that I will do research with in the summer so I'll be working with Dr. Zaremberg. It was pretty easy she was one of my professors and there were only about 20 kids in my class I thought she was pretty good I also didn't quite know what I wanted to do research on but I looked at what she was doing, she was studying lipid derivatives, that’s a cancer drug so I thought that was interesting. After the midterm, I did well and I emailed her and went in and talked about it and read her paper.

ERIN (BIOSCI):

I have not participated in any research, but if I had started my degree two years ago instead of four years ago I would have definitely looked into the science internship program because I like the idea of being able to get on-the-ground experience and having a better idea of what jobs are available for people in biology. So I think if that is something that is interesting to you, I would definitely recommend looking into that.

EMILY (CMMB):

So I also haven’t gotten a chance to do a lot of research, but I was originally looking to do research this summer and I started emailing profs in early November and I reached out to Foothills and I’ve been able to get research for a 507 next year but in CMMB I have found that is really competitive to get research and you have to do a lot of networking and emailing. If they say email in December email in October, it requires a lot of persistence to get anywhere I find.

EMMA (ECOL):

So I'm doing a 528 right now which is a full year long research project. It is the same as a 530, just not honours. I emailed a few professors and it was fairly easy in ecology to obtain research. It is not nearly as competitive as CMMB is. From that I got a job working in Kananaskis for two months last summer working with ground squirrels. It was a job that I didn’t get a course credit

for, but I think that a lot of opportunities arise from doing research in ecology, at least that is my experience with it. I really enjoyed what I've been able to do so far. Right now I'm working with bighorn sheep in Kananaskis, and I get a lot of on the ground experience with that which I really enjoy.

e) What type of student do you think your program is and is NOT for?

EMMA (ECOL)

For ecology you have to have a good love of being outside, because if you hate being outdoors or hate being cold and all that kind of stuff, it's not awesome. Doing bighorn sheep work- I've done a lot of trudging through snow, and it is definitely not glamorous work- but it is interesting. I think it's for people who enjoy exploring and experimenting. For classwork and everything I think you just need an open mind and need to be curious about your learning . For population ecology or stats, I just have an open mind and have a curious mindset and it seems to have done well for me.

EMILY (CMMB):

So far from what I've seen in my program- to be happy, you really need to love cellular and microbial biology and also be very dedicated to your studies, like you can't really be procrastinating. Just for reference, this past week I've had 130 pages of reading just from 1 CMMB course. You hit the ground running and you don't have time to take a breath so you have to be really dedicated to what you're doing.

ERIN (BIOSCI):

I think general BIOSCI as it sounds is good for people who like to generalize and are very flexible in what they want to do. It's also good for people who put in the time to look into what kind of courses you can take, because there's so many you can take. It's really good, I feel like I've gotten to learn about a crazy variety of things. I've really enjoyed CMMB courses as well as ZOOL courses and it's really nice to know that I can take those courses and it just adds to my degree. It doesn't feel like a distraction from what I'm trying to focus on. I think it's also good for developing the ability to problem-solve, and in my experience I've learned that all the courses test in very different ways so I think that it helps in developing problem solving strategies in different areas and also how to be flexible.

LIAM (BCEM):

For biochemistry, you have to definitely have to like chemistry as well as biology. Also, you have to like knowing *why* things happen- it gets down to the nitty gritty details, for example we learn about the chemical structures of little proteins in your body. You have to really like the fact that you are learning exactly and precisely why things are happening. You have to keep in mind the

bigger picture, because sometimes you lose sight when looking at a small protein and forget about the bigger picture and you have to be dedicated to studying a lot.

HUNTER (ZOOL):

You have to like your program, if you're in zoology you should probably like animals. You also have to really like the detail that goes into it. It's a lot of memorization and you also have to be exploratory and curious because it doesn't matter if you memorize 4000 different terms if you aren't able to piece it together. Most of the interesting stuff I learned in my degree was by Googling stuff because I just wanted to learn how it works. So I think if you have an exploratory mind and are good at memorization you will do well.

JUSTIN (PLBI):

I totally agree with everything they said, if you are choosing a specific major, you have to like it. Don't think that I have to go into biochemistry because that's the best way for me to get into med school or something like that. I definitely don't think that's what you should be doing when choosing a major. I think you should go into it thinking "wow I really do like ecology or plants". I don't think you should be going into it for scholarships or research either. I think it comes down to if you like the core of what it is. For plant biology it depends on if you like plants. You can either focus on the macro or micro aspects of plants but in the end it comes down to plants. That's who I think the program is for.

f) What has been your favourite course/courses in your program?

JUSTIN (PLBI):

My favourite one would have to be BIOL 505, medicinal plant biochemistry. It does have a lot of biochemistry in it but the professor goes really into depth about the plant aspects and he brings in a lot of props and materials that tie into the subject matter of the class so you can get a real view of it. So he's brought in certain tea or coffee or certain plants into the class and he goes over all the chemical pathways that are related to that plant. Another class I really enjoyed was Dr. Samuel's Plant biology 543. That one has a lot of cellular aspects and learning about how to go about research problems and it's not so much about memorization but more critical thinking problems and taking information you learned and applying it to different scenarios.

HUNTER (ZOOL):

I think biology in general is full of some really amazing profs. Two that stand out are ZOOL 461 and 463. They are kind of a continuation of the same course Animal Physiology. There are a bunch of profs that teach it. It is really interesting, especially the labs because they take stuff you are learning in lecture and gives you a good understanding of how it works and you can see

it in action. For example, for a muscle unit we took a frog and dissected it and hooked it up to a machine that sends electrical impulses and we could see the muscles moving.

LIAM (BCEM):

So far BCEM 401 has been my favourite. It's Biochemistry Lab techniques and so far, unlike the labs you take in first and second year, where the labs are unrelated to the class here in the class you basically talk about the lab and the techniques and why you're doing it. I thought it was cool it was actually the first class where we did genetic engineering and we made E. coli express a gene and a protein and I thought it was cool that we took a human gene and put it in E. coli and made it express it.

ERIN (BIOSCI):

So for general biology my favourite courses so far have been BIOL 435 and BIOL 451. 435 is Biology of Fungi. It goes through and explains this topic of biology that is overlooked a bit. It had a lot of interesting labs and a learning style where you had to kind of learn everything upfront. You go into class and Dr. Addy will explain different ideas and concepts to you that may seem complex but as you go through they start fitting together and I think it's very valuable and worth it for people to try. BIOL 451 was one that's more based on ecology and ecosystems but the professor looks a lot at the ethics relating to biology and ecosystems and there were a lot of interesting discussions on how biology relates to the world and a lot of different issues.

AYAH (CMMB):

There are so many CMMB courses but my favourite one is CMMB 411 and it is also the hardest one I have ever taken. It's molecular genetics and the whole course is DNA replication, transcription and translation but the course goes into so much detail it's fascinating. You really start to understand how things work and how it is regulated. Take it with a grain of salt because it is really difficult but I think it is really really fascinating. The other course that I think a lot of students in zoology and general biosci take this course is CMMB 403 which is developmental biology. Honestly I think if you can take any course with Dr. Cobb you should take it. I think this course is fascinating. It talks about the entire embryonic development from sperm and egg to a baby. You do have to study a lot but it is very fascinating.

EMMA (ECOL):

My favourite course was a field course. There are a lot of amazing Ecology profs and courses here at the university but my favourite one by far was going out to Vancouver Island and doing a conversation Biology course. It was three weeks and we did a lot of different field techniques. We got to study a lot of different seaweeds and plants and learned a lot about conversation. It was really worthwhile and I couldn't recommend it enough

g) If you could go back, what would you do differently?

EMMA (ECOL)

If I could go back I would have taken more geography courses. I feel one of the most marketable skills right now is GIS and how to use that. The more computer based courses, the better for ecology. People want to hire people who can easily enter the workforce and start working and they don't have to train as much. I should have taken math courses and harder courses like OCHEM towards the beginning of my degree because its not great for your GPA to have that near the end of your degree.

EMILY (CMMB):

Nothing yet.

ERIN (BIOSCI):

I don't know what I have changed much I probably would've prepared better for 400 and 500 level courses and made sure I had the prerequisites but as long as you are flexible I think it will be good.

LIAM (BCEM):

I would have chosen my option courses better so I could work towards a minor. A minor adds up and is more productive than doing a bunch of GRST courses that don't really provide much. I would've done more computer science because Bioinformatics is a really big thing now and that's definitely interesting.

HUNTER (ZOOL):

I probably would've planned it out better. I probably would have taken OCHEM and BCEM earlier so they weren't sitting at the end of my degree. I would have networked a lot more and done more science related extracurriculars. It's easier if your hobbies and academic life blend together so you're not 2 completely different people when you're at school and home. This year I am part of a paleo discussion group where we discuss papers in paleontology. It connects you more to the people around you.

JUSTIN (PLBI):

I don't think I would go back and change anything. I really enjoyed what I did and where I started and where I am now. i definitely would have tried harder in first and second year but I understand because university is a new place and courses are hard and it takes time to adjust. Other than that I think I hit it right on the nose the first time.

h) Study tips?

JUSTIN (PLBI):
I think everyone studies in a different way. For me what I do is maybe a week before the exam, I rewrite every single one of my notes by hand. It takes a long time but the information gets stuck in my brain. Also, talking about it is a good way. Talking to others and teaching others is a good way to remember it.

HUNTER (ZOOL):
I would say don't procrastinate. Another big thing is to figure out a study method and notetaking method that works for you. I'd say handwriting notes in class isn't the best way to go about it, especially dense classes with dense material because the professors go so fast you're gonna miss a lot. I'd do sloppy notes in onenote first and then organize it later.

LIAM (BCEM):
I think it depends on what course you are taking,and how they test and how they teach. I use a flash card app: yanki, and you can have it on your phone or laptop. I just make flashcards in about 20 minutes and you can go through it on the train ride to school and when it comes to the final or the midterm you've been repeating it all along- it's not like you don't know the material. I think that's the most efficient way to study.

ERIN (BIOSCI):
I think when I'm studying I do a lot of diagrams and crazy bubble notes everywhere and so using flashcards never works for me because it's too ordered. I like making review booklets and figuring out why everything goes together. I think not caring about what other people are doing is important. I got so hung up on my friends who would do 400 flashcards before a test and that would freak me out and make me less confident. I think just doing what works for you and not getting stuck in your own head is really important.

EMILY (CMMB):
There's two main things that I do. I rewrite all my notes over and over again until I kind of think I have them down. For memorization heavy classes I record myself talking through my notes about a week before the exam and whenever I have a break, I'll just play the recording and listen to myself talk and try to see anything that I've missed.

EMMA (ECOL):
One of the biggest things that's helped me out was studying first by myself in whatever manner I choose and then bringing that to studying with other people. I think if I study with other people

and that's my first time looking back at the material I fall so behind, so I think studying by yourself is better than trying to catch up with other people.

For more information about courses...
Check out our course profiles @
www.bsaucalgary.ca

Each course profile consists of an in-depth interview with a professor (usually the course coordinator) to learn more about the course itself, how a student can be successful within that course, and different skills that students can takeaway from it.

SPECIAL THANKS TO:

- Dr. Heather Addy
- BCEM REP - Liam Guetg
- PLBI REP - Justin Nichol
- ZOOL REP - Hunter Kveps
- CMMB REP - Emily DeMichele
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SAHEJ (EVENTS COORDINATOR):
Thank you for coming! Remember the deadline to transfer or apply for honours is February 1st!