Don’t Panic: The FIZZ survival guide

1. Intro

Hey! We've got some news for you.

The ***good*** news is you have made it into the Engineering Physics program, one of the most challenging programs here at UBC.

The ***bad*** news is you have made it into the Engineering Physics program, one of the most challenging programs here at UBC.

Wait. Hold off on the panic attack. And breathe.

The Engineering Physics program has a reputation for being… well…hard. But don't ever let that scare you or deter you. Many individuals before you have made it through the program and while they are all self-declared masochists, it really isn't that bad. In fact, it is one of ***the*** most rewarding programs offered here at UBC. The amount of knowledge you are going to gain is considerable and the challenges you are about to face are large, but that is part of what makes Engineering Physics so great. From solving complicated problems, working abroad, or achieving personal bests, the academic journey you are about to embark on has all the potential for being an incredible experience. It may seem painful at times, but there are ways to lessen the suffering and it will be worth it in the end.

This survival guide is full of explanations and tips of what the Engineering Physics program is and what being a Fizzer means. It'll also give you pointers on the different classes you have to take, how to get that coop job you dreamed of, how to get into grad school, and best of all, how to make the most of the whole experience.

Read the rest of this guide and slot it into the folder marked "learning resources" in your colour-coded, cross-referenced filing cabinet (what…you don't have one yet?) for your next scheduled panic attack.

But don't stop there. Ask questions of the brave souls who have gone before you about Engineering Physics. The upper year students are fond of ranting bitterly about the bad things and raving ecstatically about the good, what they should have done back then and what they would do if they were you. With a grain of salt or two, you can gain a lot by listening to them about their experiences. In addition, your executives are there to make your academic journey not only less painful, but fun too. And don't forget your classmates, either; they're probably one of the best resources you'll have, since they'll be there alongside you taking the same classes and working through the same problem sets.

So…

The bad news is fellow engineering students of other disciplines are going to look at you funny and may think of you as a nutcase for choosing a program that can be a little… er… intense. But the good news is that you're going to make it through, and this guide is here to help.

1.1 What is Engineering Physics?

Well, you might struggle with when trying to explain to people what it is that you're studying in school. Essentially, Engineering Physics is the bridge between Engineering and Science, where scientific discoveries are converted into tools that engineers can use. The program encourages team-based-project learning early on, teaches advanced concepts in math and physics, and teaches how they are applied in mechanical, electrical and computer engineering. The results are students with a broad set of knowledge and work options.

Engineering Physics is a cross-disciplinary program that combines the best of both worlds: Know-How and Know-Why. You learn the practical and technical skills of an engineer, as well as the theoretical and analytical skills of a scientist. In other words, an Engineering Physics graduate will be able to take the theory they learned and apply it to solve novel (as opposed to routine) engineering problems.

Engineering Physics is rather unique in that it is considered one of the Engineering disciplines in Applied Science, yet it operates out of the Physics and Astronomy Department under the umbrella of Science. Confused? Yeah, me too, but it seems to work. This is also true for Co-op – Eng Phys Co-op is run by the Science (not Engineering) Co-op office.

"Engineering Physics is an Honours Physics degree with an engineering component tacked on at the end"

The Soccer Analogy

The international world of soccer provides a good background upon which to compare engineering disciplines.

Electrical Engineers
They are the German national team. They play by the book. They are formal, rigid and regimented.

Mechanical Engineers
They are the English players. They like to kick the long shots, hope to get lucky and generally enjoy the game.

Engineering Physicists
We are the South American teams. We are creative, flashy and we like tricks.

1.2 What can I do with an Engineering Physics degree?

You can do pretty much anything you want. The broad educational background prepares you for rapid changes in technology as it gives you the tools to learn and adapt to any situation. If there's a piece of leading edge technology that piques your interest, it's likely an Engineering Physics graduate has had a hand in it.

Fizzers often go on to work in industry. Pursuing graduate studies, in Physics, Engineering, or other fields, is another popular option. However, one of the great strengths of an Engineering Physics degree is the broad range of options available.

Here are a couple examples of what Fizz grads are now doing:

Bjarni Tryggvason	Former Canadian Astronaut
Raymond Chan	Former MLA for Richmond
Dan Friedmann	CEO of MDA
Iain Verigin	Director of Product Strategy at PMC Sierra
Colin Harris	Vice President of Integrated Circuit Technology at PMC Sierra (one of the founders)
Ken Spencer	One of the founders of Creo (acquired by Kodak)
Richard McMahon	Former CEO of Galian Photonics, Former CEO of Techware (acquired by Brooks Automation), also worked as a venture capitalist for Venture West
Andre Marziali	Director of Engineering Physics, Founder of Boreal Genomics Inc.
James Olsen	Dean of Applied Science, UBC

Other examples of what grads have gone on to become are:

Professors
Lawyers in intellectual property
Medical Doctors
MBA's and Finance Professionals

1.3 The who's who of Eng Phys

Dr. Andre Marziali, Engineering Physics Director

Dr. Marziali is a friendly, approachable, and knowledgeable person who is always glad to help students. Fizzers know him best for his robotics course, which is taken in the summer after second year, and is one of the highlights of the Engineering Physics program. Dr. Marziali is a UBC Fizz alumnus, so you can always remember that he's been through everything you're going through.

Email: andre@phas.ubc.ca

Office: Virtual office (by appointment): whereby.com/andre.marziali

Eileen Campbell, Engineering Physics Program Coordinator

As the Program Coordinator, Eileen is in charge of the behind-the-scenes administration. If you're having trouble registering for a course she will do her best to get you in it. She also organizes your standard timetables and makes sure you take all the courses you need in order to graduate.

Email: campbell@phas.ubc.ca

Office: Virtual office (by appointment): whereby.com/eileen-campbell

Safder Raza, Engineering Physics Co-op Coordinator

Not sure if your résumé is up to par? Uncertain about what to say during interviews? Want to develop your own co-op job but aren't sure where to start? Whether it's your first or your last co-op job, Safder will help you find and land that job you're looking for.

Email: engphys@sciencecoop.ubc.ca

Phone: 604 822-1384

Office: Chem/Phys 170

Dylan Gunn, Engineering Physics Project Lab Director

Dylan has stepped up to be the Director of the project lab after Dr. Jon Nakane switched over to become the director of IGEN. Dylann is the instructor in charge of your two capstone courses: ENPH 459 and ENPH 479 where you get to develop projects of your choosing related to the industry.

Email: dcgunn@phas.ubc.ca

Office: Eng Phys Project Lab, Henn 115

Website: http://www.engphys.ubc.ca/projectlab/

Bernhard Zender, Engineering Physics Project Lab Student Support

Need something waterjetted? Or advice on mechanical design? Talk to Bernhard, and you will find that many of your project problems disappear quickly with his help!

Email: bzender@phas.ubc.ca

Office: Eng Phys Project Lab, Henn 115

Miti Isbasescu, Head of Software Systems

The newest member of the Eng Phys project lab is Miti. Talk to him about anything software and machine learning related, or even tech in general. He also teaches the ENPH 353 machine learning/computer vision project course that you take in 3rd year

Email: miti@phas.ubc.ca

Office: Eng Phys Project Lab, Henn 115

1.4 Definitions

Terms used throughout the Survival Guide you might not readily be familiar with.

Fizz	The common term that is used to refer to the Engineering Physics Program and student society.
Fizzer	An Engineering Physics student
Penthouse	The Fizz clubroom; located on the top floor of Hebb
Physsoc	The Physics Student Society comprised of fellow chess players with more "debating of entropy" and less "the beauty of ball bearings".
EUS	Engineering Undergraduate Society.
Cairn	The EUS Cairn is the large concrete block on Main Mall, painted white, with a red E on each of its three sides. A symbol staking out the engineer's territory, the Cairn is also a popular target for defacement by other faculties.

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2. Courses

So what kind of things do you need to learn to become a real Fizzer? Well that depends on what you want to specialize in and what you want to focus on. Your 2nd year is cross-disciplinary and includes a number of Physics, Math, and Engineering courses that provide the background you need for subsequent courses. Before registering for your 3rd year courses, during the summer of 2nd year, you will be asked to declare your specialization. Once again, you will not automatically be accepted into the specialization of your choice. There are limited seats available in the Mechatronics option and students will be ranked according to 2nd year marks. In your 4th and 5th years you'll have the opportunity to choose technical electives and focus your studies on topics that interest you most.

Below are short nuggets of wisdom, passed on to you from current/recent Fizz students, about each class that you'll take. However, you'll notice that some of the courses from 5th year are missing. This is because the curriculum is changing, and we don't know yet what courses your class will have to take in your 5th year. When you look at the UBC Calendar or Eng Phys Dept. website, the classes currently listed for 5th year are the classes that the current 5th years have to take, and they may not all be the same as what you'll be taking three years from now. However, the courses listed are ones that have been part of the curriculum for quite some, and are not likely to change.
Course directory will be updated soon:
Your course schedule will look something like this, although it may vary slightly from year to year:

	FALL				WINTER				SUMMER				TOTAL
YEAR 2	ENPH 259	1	Exp Tech.	3	COOP 1				MATH 257	1,2,s	Part Diff Eq	3	
	CPEN 221	1	Computer Programm	4					PHYS 250	s	Mod Phys	3	
	ELEC 204	1,2	Circ Anal	4					ENPH 253	s	Instr Design	5	
	MATH 217	1	Multi+ vector	4					ENPH 257	s	Thermo	2	
	MATH 255	1	Diff Eq	3					ENPH 270	s	Dynamics	2	
	MECH 260	1	Mech Materials	3					Comp	1,2	comp studies e	3	
	TOTAL			21					TOTAL			18	39
YEAR 3	MATH 307	1,2,s	App lin Alg	3	MATH 305	1	Applied Complex	3	COOP 2				
	PHYS 301	1	E&M	3	MECH 280	2	Fluid Mech	3					
	MECH 360	1,2	Mech Mtrls	3	PHYS 350	2	Class Mech	3					
	MECH 325	1	Design 1	4	PHYS 304	1,2	Quantum	3					
	ELEC 221	1	Signals and System	4	CPEN 312	2	Dig systems	3					
	ENPH 353	1,2	Project 1	3	APSC 278	1,2	Eng Mtrl	3					
					APSC 279	1,2	Eng Mtrl Lab	1					
			TOTAL	20			TOTAL	19					39
YEAR 4	COOP 3				ENPH 459	2	Proj 2	5	COOP 4				
					MATH 400	2	App analysis	3					
					MATH 318	2	Prob Stats	3					
					PHYS 401	2	App E&M	3					
					ELEC 341 (or MECH 466)	1,2	Control	4					
					Tech Elec			3					
						TOTAL		21					21
YEAR 5	ENPH 479	1-2	Proj 3	3	ENPH 479	1-2	Proj 3	3					
	APSC 450	1,2	P.Eng.Pract.	2	PHYS 403	2	Stat Mech	3					
	MATH 405/406/PHYS410	1	Numerical methods	3	PHYS 408	2	Optics	4					
	ENPH 352	1,2	Lab Tech	2	ELEC 481	1,2	Econ	3					
	Tech Elec			3	ELEC 301	1,2	Circuits 2	4					
	Tech Elec			3	Tech Elec			3					
	Comp Studies			3									
			TOTAL	19			TOTAL	20					39

A spreadsheet with something you could use to help plan your courses can be found here. (Please keep in mind that if you intend to deviate from the STT, you may encounter timetable conflicts. It's also important to remember that the number of credits DOES NOT EQUAL amount of work required. Talk to upper year students to understand the workload of each course)

On Complementary Studies Courses

Most of you will have taken your English class and one Humanities/Social Sciences class in first year. The Complementary Studies credits scheduled for your 2nd and 5th years are then your final 3 credits of Humanities/Social Sciences, and 3 credits of Impact on Technology. Many people take their complementary studies courses at night, or by correspondence, while they're on co-op. Some may also take it during their summer before second year

Tidbits on Math

"I generally believe that for most "high-end" technical jobs (research scientist, research engineer, part of an engineering team developing unconventional new products etc.), you can't have too much math background. Once you get to a threshold in math knowledge, where you feel confident about tackling most any well-defined physics or engineering problem that might come your way, there is no turning back. Having said this, the math requirements in Eng Phys should be sufficient to get you to this threshold. Thus there is absolutely no question that you are better off doing very well in the existing core program, than taking extra math courses and doing considerably worse in everything you take. There are a few very gifted people who seem to be able to take the math honours and still do fantastically well in the whole program. It is students that seem to have that potential that I really encourage to take math honours, after pointing out what I just mentioned."

- Dr. Jeff Young, Head, Physics & Astronomy Department & former Eng Phys director

Many times we learn new Math in our physics class prior to learning it in our math class. Math is such a crucial part of Eng Phys that all of us fizzers have to take Math 400. Rumour has it that this is considered

the hardest undergraduate applied math course at UBC. Some words of advice passed down from the higher Fizzers is to ensure you never fall behind in learning the Math. The impression is that the only way to pass Math 400 is to do well in all the previous math courses.

On Minor in Commerce
If you have taken ECON as your humanities electives then the Minor is quite a good “deal.” You only need 3 extra courses. The accounting one is very simple, and useful if you have never taken Accounting before. The marketing course proves to be quite practical as well. For the elective, the finance course is great.

On Minor in Honours Math
You may like math, but do you like math THAT much? For some people the answer is yes, for others it’s no. That’ll be for you to decide. You only need 3-4 extra courses to get this minor and they can also count as technical electives. But keep in mind that these extra courses can be very difficult and deals with a lot more rigorous math than what we do in the regular Eng Phys curriculum. But because of this it could help for grad school, especially if you’re thinking of going into something math/physics based.
Working Part-Time
If you are paying for your own education and must work during school, you may find it rather more difficult to get through the program as it is scheduled. In that case, you should contact Dr. Marziali to discuss planning a reduced load.

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3. Co-op

Contrary to popular belief, co-op in Engineering Physics is not technically mandatory. The whole point is to gain practical, technical experience and although co-op is a great way to do this, it isn’t the only way (see Co-Op Alternatives, a few pages ahead). Following are some tips on how to land a co-op placement and some alternatives to gaining technical experience through other work and projects.

3.1 Getting a Co-op Job

By Sandy Abley, former Eng Phys Co-op Coordinator

> Get your resume and cover letter checked by the Coordinator and if possible get it checked over and revised BEFORE school starts in Sept. Due to competition with other universities we are starting to post jobs earlier and earlier.
> If you have sent out 20 applications and have no interviews, this is a sign that something is wrong with your application, get it checked
> Do NOT be picky about what you will do. If this is your first "real" job, you need to get EXPERIENCE and contacts. And sometimes the most valuable experiences are the unexpected ones.
> Work hard...no matter what you are doing or your level of responsibility. People will remember you. Even though you are a student, you are establishing your reputation.

Be kind and respectful to everyone you meet and your classmates...they are your future colleagues and perhaps future business owners/partners.
Good formatting and well written cover letters DO help you land interviews.
Try to apply to at least 5 to 10 jobs a week - those who try hard will eventually find a job. It's extremely rare for someone who has worked hard NOT to get a job.
Visit the Co-op coordinator at least once every 2 weeks if you are still searching for a job. This keeps you on top of mind and shows you really care about your job search. Almost all students who do this are extremely successful.
If you need help, ask for it. Everyone wants to see you succeed.
MOCK interviews. Book at least one mock interview...it can really make a difference.
During your first week on the job, sit down and talk to your direct supervisor about his/her expectations and goals for your work term. This will give you some direction and establish that you care about getting the job done right.

Advice from other Co-op coordinators:

If your interviewers are wearing banana suits, COMMENT on their banana suits. They clearly want you to notice it otherwise they wouldn't be wearing it!

Brian Vidler 2019, former Eng Phys Co-op Coordinator

3.2 What to do at Career Fairs

By Sandy Abley, former Eng Phys Co-op Coordinator

Why are you there? What is your purpose? If it's to do some research and networking, then have questions ready. Come prepared. If it's to find a job, come prepared with many copies of your resume and be ready to be interviewed on the spot.

For example, when I was at the Microsoft booth a couple of years ago, they did not want you to leave your resume and run. They take your resume and screen you on the spot. And they were taking notes right on the spot on your resume. You are already being short-listed as you stand there! If you just leave your resume there and walk away without talking to the recruiter, you are wasting paper.

Questions they asked:

When are you graduating?
What do you want to do? Be really specific. Give them lots of choices.
What's the coolest thing on your resume? (Don't make them ask why!)
What are you excited about?
What makes your program better than _____. (You and I know that your program is great...but you must know how to effectively market YOUR program). You are the ambassadors for the Engineering Physics Program!

What they are looking for:

Interest and enthusiasm
'A shine in your eyes' or a glazed look over your face?
A friendly person with excellent communication skills

Smiles, a sense of humour
Maturity
Confidence (remember it's in your body language and in your voice)

What are positive things you can do?

Dress appropriately nice shirt or golf shirt and nice pants leave your skateboard and rollerblades at home
Ask intelligent questions about the company
Politely ask for company information
Do not simply drop off your resume and run off! The whole point of being there is so that they can put a face to a resume. You're wasting your time and theirs otherwise you could have just emailed them your resume.
Make yourself shine above others. (ie. Bring brochures about Eng Phys), tell them about your goals (you don't just want junior positions forever) talk about your desire to become a project manager, etc
A firm hand shake
Look at people straight in the eye!
Be a great ambassador for your program. Don't assume these people know how great and selective your program is!

3.3 Co-op Alternatives

The easiest choice of action if you don't get a co-op job is to take classes, however there are a couple of alternatives:

Technical Experience

Similar in scope to the Project Lab projects, you choose a project and write a big report after several months of work…usually unpaid. The good part is this would require only as much work as a regular work term and you get some choice as to what project you work on. For more information see Jon Nakane about projects and sponsor companies.

Finding your own internships

Yes this is possible, a couple of students usually end up doing this, although keep in mind that by doing this, you may lose full time student status

Opting Out of Co-op

Although there are alternatives to completing co-op, students are strongly encouraged to participate in the coop program to gain technical and industry experience. Opting out of the Engineering Physics Co-op program is possible, however you must still fulfill technical experience requirements.
* APSC 486 is an additional project course regular Engineering Physics students have the option of taking known as New Venture Design. You can take it in place of ENPH 479 or you can take it as a tech elective

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4. Beyond the Program

4.1 Grad School

You may or may not have thought about continuing with Grad School yet, but keep in mind that your 3rd Year marks will help.

Rumour has it there are a few ways to get into Grad School:

Maintain good grades – Keep an average above 80% in your 3rd and 4th year courses and have no W's on your transcript (requirements may differ slightly depending on the school you are applying to)
Don't take an excessively long time to finish your degree (eg more than 7 years)
Have good research capabilities – This is well suited for someone in Engineering Physics since we are enrolled in a number of project courses, intensive labs and have a thorough math and physics background.
Getting published – Not only is this helpful to getting into Grad School, it's great for your résumé too. It shows your good capabilities to do research, and also shows your ability to think creatively and put what you've learned to use. Getting published (as in a paper in a scientific journal of some kind) shows your ability to learn well in a more self-guided setting and is something prospective schools would certainly be looking for. Having said that, getting a paper published is no easy task. Most of the time the paper has to be refereed, or evaluated by a professional who must decide if the work is worth publishing. You may work on part of a project (for co-op or in the project lab) that is going to have publishable results, and your name may appear on the paper. If not, you may try to write a paper yourself and submit it to an undergraduate journal or competition (try Canadian Undergraduate Physics Journal, www.cupj.ca). For co-op, it may be possible to write your co-op report in the format of a scientific paper.

4.1.1 Research

UBC is really a great place to pursue graduate studies. There is an immense amount of research going on here! If you talk to the profs and look into it, you'll find a number of Engineering Physics grads in many corners of the university. Visit the engineering and physics websites, and scan the research topics for anything that strikes you.

4.1.2 Getting Connected

We are often told to focus on what we're passionate about. All of us can and do excel at what we enjoy. Many of us fill our work terms (and for some, the rest of the school year) helping do research at UBC or abroad. Engineering Physics is a great program to help set you up for Grad School or even a future in research. The main problems are 'I like everything' and 'Who do I talk to if I want to learn more or get involved?'

You're on your own if you like everything. As Fizzers we tend to be good at a lot of things but watch out for something that may stand out.

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5. Fizz

5.1 What is Fizz?

"Fizz" is the Engineering Physics student association. We're smaller than clubs like Mech and Civil, but we're also bigger than clubs like GeoRox. Mix that in with brains, and Fizz is a unique club whose members are not only academically successful, but are also diverse, social and show a high level of camaraderie. You'll also find Fizzers involved with the many different clubs on campus, competing on all levels of intramural sports, or sitting around an impromptu music jam session. Overall, Fizz is composed of dynamic and well-rounded people with a wide variety of skills and backgrounds.

5.2 The Penthouse

Located on the top floor of Hebb, "The Penthouse" is the Fizz clubroom. Here you'll find fellow Fizzers studiously studying, furiously finishing homework or chilling out on the couches. It boasts one of the best view locations on campus, as well as its very own patio! In the Penthouse, you'll find a foosball table, some couches, a television and more! Finally, $0.75 pop, $2.00 beer, $0.50 ice cream sandwiches, $1 fudge bars, and other delectable goodies are available throughout the year.

5.3 Fizz Exec

The Fizz Executive is composed of students committed to ensuring the sanity of its club members. From organizing social events, to providing study space, to speaking to the "Big Wigs" on your behalf, these hard-working folks are there to make your journey through Engineering Physics as painless and as worthwhile as possible. And maybe even fun! To keep you in the loop, you'll get an email every second weekend with information on activities in the coming week. If you have any questions, feel free to talk or email any of the exec. They are friendly and knowledgeable!

Fizz will also be participating in a number of Intramural Sports such as soccer, ultimate Frisbee, floor hockey, and volleyball. Also, we try to make a strong showing at UBC Rec events throughout the year, including Day of the Longboat, Storm the Wall, and Faculty Cup. Look out for sign-up sheets in the Penthouse and email announcements. If there's a particular sport or event you would like to take part in, contact our Sports Rep.

5.4 Access

1. Decide what key(s) you want and get in touch with the appropriate person:
   Penthouse – send an email to Bernhard, with your full name and student number.
   Lockers – are available in the back room of the 5th floor penthouse of Hebb for storage, but you have to bring your own lock. Availability is limited. Contact the Penthouse Manager for locker assignment. More details to come when we are back in person
   Hebb & Hennings Buildings – send an email to Bernhard, with your full name and student number, should be granted at the same time as Penthouse access.

5.5 Mentoring Program

Are you nervous about your first term in Fizz? Do you have tons of questions about the program? Join Fizz Mentoring!

Your Engineering Physics Student Association provides a mentoring program for students entering Engineering Physics in the fall. New Fizz students are grouped with upper-year Fizz students and that they can form a group chat, do a variety of activities together, meet people in their own year and ask a range of questions new Fizzers may have. Last year, several mentees got advice on finding Co-op job placements and deciding which options to choose in the program, they also had the chance to play some games and get to know some people in their year more.

A mentoring kick-off night will be held early in the term so that mentors and mentees can introduce themselves in person. This night will also serve as a round-table discussion where some of the common questions facing new Fizzers can be discussed and everyone involved in the program can get to know each other. Last year, this event was well enjoyed; the new students had the chance to meet upper year students and each other.

You should receive an email from Andre when you enter the program with more details about how to participate

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6. Extra-curricular Activities

Engineering Physics Student Association

The Engineering Physics Student Association is happy looking for new volunteers! From planning social events, to organizing academic seminars, to maintaining the Penthouse, and everything in between, you are guaranteed to have a great experience. Elections for positions are held annually in March. If you don’t

want to commit just yet, we will be happy to accept an extra-hand for a few hours every now and then. Contact any of the Exec if you are interested!

Engineering Undergraduate Society

The EUS, or Engineering Undergraduate Society, is a student society composed entirely of students in the UBC Engineering Program. The mission of the EUS is to support the academic, professional, and social needs of UBC Engineering students, encourage excellence in all aspects of student life while at university, and celebrate the accomplishments of its members. From decorating Red jackets with a wide array of patches, to caroling around campus on the last day of classes, to STUdeNT projects, the EUS has many traditions to partake in. For more information about the EUS, as well as information on how to volunteer, visit www.ubcengineers.ca

Design Teams

UBC has the largest number of design teams in Canada! You can find them on the UBC Engineering Website

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7. Tips, Strategies and Encouragements

7.1 Where to Find Old Exams/Midterms

Your instructor

Upper year students

UBC Math Club (math exam packages)

Brock Hall

7.2 Good Study Strategies

In Groups
Sometimes Fizz can be a lot to tackle on your own. Studying and working in pairs or groups can be really helpful because you can always ask your study buddy or buddies about something you don't understand. What you could also try if you're crunched for time is if you take the time to read one section of the text and your buddy takes the time to read a different one, you can explain it to each other, skip a bunch of

reading and get a better understanding all around. You can really get a lot out of helping each other… but, the hard part, you got to keep focused on task!

Stay on top of things
You've probably heard it before, and here it is again. It makes studying for exams and asking the right questions that much easier. It also really works to look at a problem set or homework assignment and chip away at it well ahead of the due date. This gives you more time to understand the problems and wrap your head around those sometimes somewhat abstract concepts.

Office Hours
Your prof's door is open at these times, whether anyone comes in or not. Make the most of it! It is amazing how much help some profs can really be when you get them one-on-one.

8.School/Life Balance

Here are some ways of keeping it through those few times during the year when things get a little hectic. Many of us spend so much time commuting to and from school, working on assignments, projects and studying that we're often left wishing to do more. There's just simply more to life than school!

It's important to strike a balance in your mental, emotional and physical aspects of your well-being. You may even be able to regain that sanity you thought you had lost for good!

Mentally
Study hard and learn what you're taught thoroughly, but also take some time to enjoy a good book, listen/play music, or play computer/board game. It is amazing how much changing gears for a little bit, while still using the ol' noggin, will make it easier to focus when you do get back to studying.

Emotional
If you're happy and feeling good, chances are you're going to have more energy and patience than someone who isn't, which are key when it comes to learning. If something's bothering you, it's probably fruitful to deal with the issue and then move on rather than trying to ignore it. A good ranting or whining session to a friend, an unsuspecting roommate, a fellow Fizzer, or even a piece of cheese may clear up your mind and lift your spirits.

Physically
Being physically active doesn't just help keep you fit, it's been proven to help you think. Try to remember to eat and sleep at least once a day, to fight off those colds that seem to always hit you in midterm season. And contact the Sports Rep to join a Fizz intramurals team.

Things you can do

Pick up and learn a song or instrument you've always wanted do

Take a time out during a study low and do a quick run around the block

Set aside some time every week for friends and/or family

Join a club or hang out with friends outside of Fizz, maybe even off campus

Open a cook book…learn a new recipe AND get some nutrition

Check out the Fizz and EUS events

Take a course OUTSIDE the engineering physics program, just for the fun of it, through

UBC, Continuing Ed, a local college, Parks and Recreation etc.

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9. Comic Relief

The Optimist sees the glass as half full
The Pessimist sees the glass as half empty
The Engineer sees that the glass is twice as big as it needs to be

Engineering vs Math Majors
A math and engineering convention was being held. On the train to the convention, there were both math majors and engineering majors. Each of the math majors had his/her own train ticket. But the Engineers had only ONE ticket for all of them. The math majors started laughing and snickering. The engineers ignored the laughter. Then, one of the engineers said, "Here comes the conductor". All of the engineers piled into the bathroom. The math majors were puzzled. The conductor came aboard and collected tickets from all the math majors. He went to the bathroom, knocked on the door, and said, "Tickets Please". An engineer stuck their only ticket under the door. The conductor took the ticket and left. A few minutes later, the engineers emerged from the bathroom. The math majors felt really stupid. On the way back from the convention, the group of math majors had ONE ticket for their group. They started snickering at the engineers, who had NO tickets amongst them. When the engineer lookout shouted, "Conductor coming!", all the engineers again piled into a bathroom. All of the math majors went into another bathroom. Then, before the conductor came on board, one of the engineers left the bathroom, knocked on the other bathroom, and said, "Ticket please."

If God were an Engineer...
A bunch of engineers are sitting around at a party, discussing the nature of the God, and who designed humans.

The mechanical engineer states that God must also be a mechanical engineer because "if you look at all the pulleys and levers that drive the body, how the tendons and muscles and bones all work together, well, it's just amazing."
The chemical engineer says that no, God has to be a chemical engineer because "if you look at all the chemical processes that drive the body, how the hormones and the brain and the glands and everything else all interact, well, it's just astounding."
The electrical engineer says that no, God has to be an electrical engineer because "if you look at the circuitry of the body, how the thousands upon millions of nerve cells transmit signals from one part to another, well, it boggles the mind."
The civil engineer speaks up last of all and says, no, God is definitely a civil engineer, because "only a civil engineer would run a sewer through a playground."

Wisdom from Above

A man is flying in a hot air balloon and realizes he is lost. He reduces height and spots a man down below. He lowers the balloon further and shouts, "Excuse me, can you tell me where I am?"
The man below says, "Yes, you're in a hot air balloon, hovering 30 feet above this field."
"You must be an engineer," says the balloonist.
"I am," replies the man. "How did you know?"
"Well," says the balloonist, "everything you have told me is technically correct, but it's of no use to anyone."
The man below says, "You must be in management."
"I am," replies the balloonist, "but how did you know?"
"Well," says the man, "you don't know where you are, or where you're going, but you expect me to be able to help. You're in the same position you were before we met, but now it's my fault."

Everyone's Favorite Proton

A hydrogen ran into the police station and yelled for help.
"What's wrong?" the cop asked.
"I've lost my electron!" the hydrogen atom exclaimed.
"Are you sure?" the cop asked doubtfully.
"I'm positive," the hydrogen atom sighed.