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Chapter 1 : I have done engineering/I am doing engineering. | WordReference Forums

Unfortunately there are lots of well-capable people in this world that do not pursue engineering based on a lack of confidence that they do not have the inherent 'smarts' to pursue the field, but do have the potential to.

To address the shortage, initiatives like GE on-the-job engineering training for women with degrees in mathematics and physics and the Curtiss-Wright Engineering Program among others created new opportunities for women in engineering. Curtiss-Wright partnered with Cornell , Penn State , Purdue , the University of Minnesota , the University of Texas , Rensselaer Polytechnic Institute , and Iowa State University to create an engineering curriculum that lasted ten months and focused primarily on aircraft design and production. Chiefly, these attacks were kept quiet inside institutions due to the fact that women did not pressure aggressively to shift the gender gap between men and women in the engineering field. Originally recruited by the Army in , female ENIAC programmers made considerable advancements in programming techniques, such as the invention of breakpoints, now a standard debugging tool. Factors contributing to lower female participation[edit] Gender stereotypes[edit] Stereotype threat may contribute to the under-representation of women in engineering. Because engineering is a traditionally male-dominated field, women may be less confident about their abilities, even when performing equally. Most women that do choose to study engineering have significant experience with regarding themselves better at these types of courses and as a result, think they are capable of studying in a male-dominated field. Women that show high self-efficacy personalities are more prone to choose to study in the engineering field. Self-efficacy is also correlated to gender roles because men often present higher self-efficacy than women, which can also be a cause to why when choosing a major, most women opt to not choose the engineering major. According to the Society of Women Engineers [11] one in four female leave the field after a certain age. Women are under-represented in engineering education programs as in the workforce see Statistics. Enrollment and graduation rates of women in post-secondary engineering programs are very important determinants of how many women go on to become engineers. Because undergraduate degrees are acknowledged as the "latest point of standard entry into scientific fields", the under-representation of women in undergraduate programs contributes directly to under-representation in scientific fields. Women tend to be more interested in the engineering disciplines that have societal and humane developments, such as agricultural and environmental engineering. The study discovered that rates of female students in engineering programs are continuous because of the collaboration aspects in the field. Another possible reason for lower female participation in engineering fields is the prevalence of values "associated with the male gender role " in workplace culture. Because men are less likely to take time off to raise a family, this disproportionately affects women. By holding a position of power over the women, they may create an uncomfortable environment for them. For example, lower pay, more responsibilities, less appreciation as compared to men. Communication is also a contributing factor to the divide between men and women in the workplace. This comes from the stereotype that men are more qualified than women for engineering, causing men to treat women as inferiors instead of equals. Part of the male dominance in the engineering field is explained by their perception towards engineering itself. A study in found that both women and men believed that engineering was in fact masculine. The strategies used for recruiting more female undergraduate students are: These strategies have helped institutions encourage more women to enroll in engineering programs as well as other STEM -based majors. For universities to encourage women to enroll in their graduate programs , institutions have to emphasize the importance of recruiting women, emphasize the importance of STEM education in the undergraduate level, offer financial aid, and develop more efficient methods for recruiting women to their programs.

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Chapter 2 : Engineering: not for girls? | Guardian Careers | The Guardian

Is Doing MBA After Engineering Worth It? May 21st, Should engineers get an MBA degree? The answer is - it depends. It really depends on the individual, their interests and their career goals.

Contact Us Computer Engineering The Engineering in Computers course is very much in demand by those planning a career in the industry or hoping to pursue research at the post graduate level. The objective of the course is to build strong fundamentals in the subject. An electronics student has the option of selecting a career path in Software, IT, Electronics and Telecommunication. Today each and every machinery is operated by using electricity. May 21st, Should engineers get an MBA degree? The answer is â€" it depends. It really depends on the individual, their interests and their career goals. However getting an MBA degree after B. There are a lot of students who choose to go for MBA after engineering degree. Why do MBA after engineering? What are the advantages? Are there any disadvantages too? Whether to choose MS, M. These are some of the questions that keep running through the minds of those engineers who want to try their luck in higher studies or those who are not happy with their current situation after completing engineering. Following are some pointers that will help answer these questions. Furthermore, for those engineers who are planning to run their own business or to do consulting, an MBA makes sense. MBA will help in better understanding of the fundamentals of business that supplements the engineering and technical side. One becomes great in finding technical solution to the problem keeping the business principles in mind. You have to stand out of crowd in order to get a satisfactory job. And having an MBA will help a candidate to do the same in the crowd of just engineers. So, getting a good job is another benefit of doing MBA after engineering degree. And after having one -two years of experience they will have a better idea whether they want to pursue MBA or not, and if yes, then what should be the field they opt for. However, nowadays a lot of students prefer MBA in finance after engineering. Engineers Having No Interest in Technical Field There are a lot of engineers who are not actually interested in computers or technology. This mistake can be overcome by opting for MBA after completing engineering. Students can save their career from ruining by going for desired field in MBA as it is open for graduates in all fields. Engineers Having Deep Interest in Technical Field And those students having deep interest in their core technical field should consider themselves lucky. They should opt for an advanced technical degree M. Finally, it is clear that doing an MBA after engineering is always advantageous for students. Hope this post helps you in moving your career in the right direction. Choose the path that will differentiate you in the competition and aligns with your goals and desires.

Chapter 3 : Getting Real About Majoring in Engineering

Electrical Engineering includes the study of electrical and electronic circuits and devices, power, communications, signal processing and systems control. Computer Engineering majors study theory, design, and applications of computers and information processing.

But before you enter the field as a professional engineer, some serious studying, a few late nights, and a few tips to get you through your first year are in order. Take good notes, and keep them all after your classes are over. Engineering textbooks can be dense, but endure through the tedium. Do your reading â€" all of it â€" and keep a highlighter and page markers handy. After the class is over, keep your most useful and well-written textbooks as reference. Your notes, annotations, and highlighting will be invaluable later on. Get to know your professors. Develop a relationship with your professors so you feel comfortable approaching them and asking for help. Get to know one or two key professors particularly well, and turn to them for help with your homework, insight into the industry, and even job or program references. Ask questions, both in class and out. Your professors want you to learn. Ask for additional examples to clarify difficult equations and concepts. More often than not, your fellow students will thank you for speaking up, and your professor will appreciate your active investment in the material. Try to solve a problem before asking for help. No one wants to do your homework for you. When you do seek help, be prepared to discuss what you tried already, and bring your scratch paper showing your attempts. Form a study group. Working alone can get exasperating if you find yourself stuck on a problem. Working with others will not only introduce other viewpoints to approaching a problem, it will also provide encouragement and camaraderie in the face of frustration. One of the most effective ways of ensuring you understand something is by explaining it to someone else. Before you move past a subject, make sure you not only answered the question but also can replicate and explain the process. Diversify your engineering classes. Take classes in all sorts of engineering, even if they are not your concentration. Understanding not only the subject matter, but also how other types of engineers approach and solve problems, will lend insight into your own field, from biomedical to mechatronics and robotics to chemical to environmental engineering and beyond. Take classes outside engineering, particularly design classes. The most successful engineers are insatiable learners, so seek to broaden your skill set generally. A design class can teach you how to represent information visually and how to talk about an idea from a big picture perspective. A writing class can hone your skills for communicating your ideas to others. A business class can prepare you for organizational tasks and leadership roles later in your career. Hone your communications skills, including conversation, writing, and presentation. The best and most innovative ideas in the world have no hope of growing past the drawing board if you are unable to communicate them effectively. And today, most technical communication between team members and leadership happens over email, which is a form of writing. Learn to present an argument simply and without agenda, and always read your emails through once or twice before sending. Engineering knows no political or cultural borders; engineers are in demand everywhere in the world. Want to build bridges in China? You should learn Mandarin. Participate in as many hands-on projects as possible, especially those outside the classroom. Future employers look for both coursework and relevant experience, and a well-organized and articulate portfolio will be invaluable during your job search. Get a summer internship. One of the best portfolio buildings blocks is the summer internship. Internships do more than build your resume; they demonstrate to potential employers that you can commit to a long-term role and work as part of a team. As a student, it is never too early to start your electrical engineering career. Do not wait until you need a job to start building professional relationships. In addition to getting to know your professors and peers, attend extracurricular lectures, workshops, and networking events, and get to know as many people working or studying in your field as possible. They were once neophyte engineers too! Scour the resources of professional engineering associations and companies. Professional engineering associations, such as the National Society of Professional Engineers, are an invaluable resource for jobs, advice, and networking. Identify organizations that share your values and interests, and make as many contacts as possible. Skip the honors class. In the engineering field, your GPA

matters. Learn when to lead and when to back down. Engineers often work in teams, and every team has one or more leaders. You should feel comfortable in both leading and following the directions of others. Hone your leadership skills and learn how to effectively influence group decisions, but recognize when your contribution should be to take orders and follow direction. Work on the problem before the team meets. The best results occur when a group discusses ideas that have already been fleshed out by individual members. Learn to do your own work and self-motivate. Always arrive at the team meeting with ideas in mind. What made you decide to study engineering? Who do you look up to in your chosen field? Learn about how individuals and companies have sought and found success, and replicate their behaviors. For new inspiration, check out these electrical engineering resources. Take heart and persevere. Engineering is a difficult course of study for everyone, no matter their IQ or test scores. Frustration can lead to feeling like an imposter. Every future engineer has struggled through seemingly impossible problem sets, cranky professors, and gut-wrenching exams. In the face of inevitable small failures, recognize that you are challenging yourself like never before, and push on through the difficult experiences. Not an engineering student yet? In that case, getting started is the most important tip we can offer for you! While it seems obvious, people can be reluctant to take the first step or not know where to begin.

Chapter 4 : The Engineering Design Process: Define the Problem

I am doing engineering from calendrierdelascience.com in electronics and communication stream. Now I can relate myself with the topic, because studying engineering is far better and different then any other graduation course.

Study Engineering in the US Study Engineering in the US International students who want to study engineering in the US will find that engineering is a growing field with great career prospects both in the U. Students who have a strong interest in math and science should consider this path of study and the many different specializations that it offers. There are numerous engineering degree programs throughout the United States for international students to choose from. Engineering allows individuals to be creative while using science and math to design and operate a variety of different structures, machines, and processes. Engineering is becoming a widely popular area of study because of the job opportunities and compensation that it affords. It is a challenging yet rewarding subject that incorporates mathematics, sciences, and practical knowledge in order to design, build, and problem solve. Why Study Engineering in the US? Students who major in engineering will find that they have a wide variety of career options open to them following graduation. Luckily, engineering students also tend to have high levels of job satisfaction. In engineering careers there is a guarantee of change and evolution, which means that engineering students never have to worry about doing the same thing year after year. Additionally, engineering careers are generally well-paid. In fact, the starting salaries are among the best across all industry sectors. Engineering graduates will likely earn salaries higher than those in sales, human resources, and even finance. A degree in engineering also equips graduates with a number of transferable skills. Engineering students build skill sets that can be applied on a daily basis, such as problem solving, decision making, innovation, project management, teamwork skills, and communication. For this reason, engineering students tend to succeed in whatever field they choose. Most schools require that students take high level math and science courses as part of their general education requirements. In addition, many universities either require or offer a range of classes that allow potential engineering students to explore the different specializations within the field. Some colleges even require that students pass proficiency tests in math and physics before entering their programs, since these skills are essential to becoming a successful engineer. For international students who want to study engineering in the U. Choosing your School While most universities offer engineering programs, departments typically offer specializations within the field. If you are an international student considering a career in engineering, be sure to speak with students and faculty to determine the strengths and weaknesses of each program you are considering. Some of the common types of engineering offered include industrial, mechanical, electrical, chemical, and civil. As engineering grows in popularity, more specific areas of specialization are being offered including nuclear engineering, architectural engineering, and audio engineering. Top Schools Although there are many engineering programs throughout the US, a few stand out among the rest. According to the U. International students who want to study engineering in the US and want a top tier education should consider applying to these programs. There are also many other programs that offer high quality engineering degrees that should not be discounted as they may offer a specialization and other unique qualities on campus. Recently, the Auburn engineering team has joined its medical team in an effort to develop a polymer that is optimal for 3d printing of tissue and bones. The Auburn Engineering team is also conscious of the need for environmental conservation. Researchers have begun construction of a mobile mitochondria laboratory intended to analyze the effects of oil spills and other natural disasters at the field sites themselves. The lab will measure the mitochondrial energy production of vertebrates inhabiting the sites. In addition, researchers are working towards building the Alabama CO2 Utilization and Storage Center, which will find ways to capture CO2 emissions and convert them into green fuels. Auburn is on the front line of the Alabama conservation effort, and their engineering team contributes to this greatly. We recommend doing your research and deciding what factors are most important to your educational experience. Career in Engineering If you are considering a degree in engineering, you will soon find that there are many career opportunities for students who graduate with an engineering degree under their belt. Whether you study chemical, mechanical, civil, or electrical engineering, there is a high demand for these

new gained skills. There is also an extremely wide range of potential specializations in engineering careers. The highest paid engineering jobs in the US are:

Chapter 5 : Women in engineering - Wikipedia

Study Engineering in the US International students who want to study engineering in the US will find that engineering is a growing field with great career prospects both in the U.S. and overseas. Students who have a strong interest in math and science should consider this path of study and the many different specializations that it offers.

Share via Email Where are the women? The UK has fewer female engineers than anywhere else in Europe. In an age when we can be proud of gender equality, engineering continues to stand out as one of few remaining male-dominated industries. But if the sector is to achieve the growth potential that is predicted for the coming decade, a concerted effort is needed to attract more women into the profession. The shortage of female engineers is stark. Research from trade body, EngineeringUKOnly, found that only 8. The dearth of female engineers is a challenge right around the world, but UK figures are the lowest in Europe. The UK is heading for an engineering skills crisis. Commentators agree that demand for engineers will rise exponentially over the next decade as our lives are increasingly driven by new technology and the pressure for renewable energy grows. According to EngineeringUK, the sector will need to recruit 2. An ageing engineering workforce is also increasing the pressure on recruitment. Given this pressure to find skilled professionals, the UK cannot afford to be missing out on the talent on offer in half of the population; women must make up a significant proportion of the candidate pool as these jobs are filled. There is no reason why women should not excel in the sector. Year after year, we see young women matching or even outclassing their male peers in maths and science exams â€" both fundamental technical skills for an engineer. More and more, the industry is telling us they need engineers who not only have proficient technical capability, but also good communications skills to work effectively in a team and explain their work to key stakeholders. Here too, women have strong skills. Engineering provides an interesting and varied career for intelligent and gregarious individuals â€" male or female. Few other industries offer the opportunity to address serious global challenges such as climate change, ageing populations and food scarcity. Nor do they promise such strong job opportunities or contribute to the economy on such a great scale. Engineering is too often viewed as a male career option. There is a vicious circle as the lack of female mentors makes it more challenging to inspire the next cohort of young women to enter the profession. This points to a broader challenge â€" there is too little recognition for the exciting experiences and bright job prospects on offer in engineering. The industry is now beginning to tackle this reputational challenge seriously and boost its female appeal. More companies are running apprenticeship schemes specifically targeting women. There are new support networks that bring together female engineers who are already working in the profession so they can share their experiences â€" both with each other and the next generation. The aim is to enhance technical education in schools and encourage more young people â€" male and female â€" to study STEM subjects at university and develop the talent pipeline for engineering careers. Things are improving, and we are slowly seeing more young women enter the profession. To get more content and advice like this direct to your inbox, sign up for our weekly Careers update.

Chapter 6 : 20 Tips for Engineering Students Â» Electrical â€‹Engineering â€‹Schools

If you've studied engineering, chances are you've developed a range of practical skills which are highly valued by employers in many sectors - this includes logical thinking, numeracy and problem-solving. Engineering is a broad subject which splits into many different disciplines (chemical.

Clearly, this is management-level material. My previous article was Part 5: Testing for correctness is one thing e. One of the challenges is to be able to mimic or inject faults into the system. Thus the deadly embrace of fault injection and the introduction of Heisenbugs â€" defects that disappear when you attempt to observe them. As you can see, everything is working just fine: By the way, the number on the right is simply a counter for each pod Everything is working swimmingly. Everything you need to grow your career. With your free Red Hat Developer program membership, unlock our library of cheat sheets and ebooks on next-generation application development. Notice that once it goes into effect, half of the requests result in errors, regardless of which pod v1 or v2 is the endpoint: To restore normal operation, you need to simply delete the route rule; in our case the command is istioctl delete routerule recommendation -n tutorial. Delay Tactics Generating errors is helpful when testing the robustness of your system, but anticipating and handling delays is even more impressive â€" and probably more common. A slow response from a microservice is like a poison pill that sickens the entire system. Using Istio, you can test your delay-handling code without changing any of your code. In this first example, we are exaggerating the network latency. Note that, after testing, you may need or desire to change your code, but this is you being proactive instead of reactive. This is the proper code-test-feedback-code-testâ€¦ loop. Note that this is not like a sleep command in the source code; Istio is holding the request for seven seconds before completing the round trip. Notice the long-running request toward the upper right of the chart â€" it took 7. This scenario allows you to test and code for network latencies. Of course, removing the route rule removes the delay. We introduced this fault without changing our source code. The thought is this: Perhaps some odd edge case caused the service to fail the first time. Yes, you want to know about that and fix it. So we want a service to occasionally throw a error, and then have Istio retry the service. Hmmmâ€¦ If only there was a way to throw a error without changing our code. Istio can do that. We just did that several paragraphs ago. Sure enough, some requests are failing: Now we can introduce the Retry feature of Istio, using this nifty configuration: This should reduce or hopefully eliminate errors: We have Istio tossing errors for half of the requests, and we also have Istio performing three retries after a error. As a result, everything is A-OK. By not giving up, but by using the Retry, we kept our promise. I may have mentioned that. Two Istio route rules were all it took: Instead, we will bail out of the request and use some sort of fallback position. Istio allows us to establish a Timeout limit for a request. If the service takes longer than the Timeout, a Gateway Timeout error is returned. Again, this is all done via Istio configuration. We did however add a sleep command to our source code and rebuilt and redeployed the code in a container to mimic a slow service. After implementing this route rule and with the three-second sleep built into our recommendation: The value here is that you can now write your code to respond to a timeout and easily test it using Istio. All Together Now Injecting chaos into your system, via Istio, is a powerful way to push your code to the limits and test your robustness. Using these technologies combined with Kubernetes and Red Hat OpenShift , give you the tools needed to move into the future. And to give yourself a break.

Chapter 7 : The Engineering Design Process

Also, doing an engineering design project doesn't always mean inventing something brand newâ€"it often involves bettering the projects of those before you. Defining the Problem Engineers solve problems by creating new products, systems, or environments.

Tom is an engineer and physics tutor obsessed with independent learning. He writes about unconventional study methods at WTF Professor , aimed at simplifying the learning process for engineers and technical students. I first met Tom a few months ago when he emailed me with some questions on starting his own blog. On to you, Tom! Before freshman year started, the picture was so rosy. Mom and dad were happy. High school friends congratulated you on your brilliance. This will be perfect for you. The reality is this: Yes, engineering school is hard. Yes, you have to put in the time. Yes, the exams are sometimes ridiculous e. And if you learn the approach, stay diligent, and do the right work, you not only will graduate, but excel â€" and leave your Econ major buddies wondering how in the hell you did it because you were out with them every Friday night. Now, based on my extremely professional, authoritative, expert opinion, there are 3â€¦ no actually 4 key frameworks that â€" if you master â€" will unlock the secrets of the annoyingly super-productive engineering student. Learning to play the game Engineering school is a game. And like most games, it has rules, a score, and levels. But also like most games, it can be optimized. There are strategies and shortcuts that go beyond simply going to class and doing the homework. Learn to play it. Hacking the learning process These are the best practices top engineering students stumble upon. Completing group projects without being charged for homicide You can master the game. You can become a learning machine. But nothing can derail your confidence and progress like a horrible group project experience. It can all be avoided if you prepare yourself beforehand. Landing an awesome entry-level job A complete and utter mystery for us analytical folk. Should I go to the career fair? What should I say? Should I do research? Learn the truth about how to find the good ones. The homework zombies, that is. Contrary to popular belief, this is not the inevitable life of the dedicated engineering student, but actually the result of some less-than-optimal choices about how to approach your engineering program. You can have good grades, sleep, and a social life well, at least among other engineers , despite what business majors will tell you. So naturally you and your roommate do what every other normal college student does on a Friday night. Challenge each other to a Super Mario deathmatch. The stakes are high pride is on the line here , so you start thinking strategy. What should you do? Well, probably figure out some combination of speed vs. The point is, classes are goal-oriented. Or spend thousands of hours on Google, Wikipedia and Youtube where you can find virtually everything you can expect to be taught in any engineering curriculum. Learning on your own is easy. Humans are goal-directed animals. Establish a target or a problem to solve and our brains immediately start churning on it. The more clear and focused the goal, the faster you can develop a strategy and start taking action towards it. You might even set a world record in the process. Tim Ferriss per Mr. First, get your hands on a syllabus as soon as possible. Identify the few key assignments that are going to heavily determine your grade. The least, or second-least, important component of your grade. Zombies dedicating large 5-hour chunks of Friday nights towards assignments that make up 0. Focused practice solving problems likely to show up on the exam is just about the most effective use of time grade-wise you can invest as an engineering student. Which is why you shouldâ€¦ Step 2: It just takes a little digging and not much really to be honest and you can have 20 final exams in your hands that represent pretty much everything you would see on your Calc final. Hack your learning Knowing what to spend your time on is of primary importance. There are best practices out there, folks. And here are the key ones for technical students. Use the lecture prep punch to maximize your retention of new material. The night before class, do a google search on the next thing up on the syllabus. Then, get to lecture 5 minutes early and do a brain dump before class. If you just waltz into class without any sort of preparation, your brain is sitting idle, unreceptive to the completely foreign concepts about to fly your way. Before lecture, take 5 minutes and a blank sheet of paper, and write down absolutely anything you can think of related to the topic of discussion for the day. Just keep writing, drawing diagrams, or doodling about topics covered in last lecture.

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Learn deeply by cracking the code of worked problems using the Reverse Learning Technique. Fed up with reading the textbook? Building stuff and being all technical and whatnot? How frustrating can it be to spend hours in lecture only to feel like you still have no idea how to do the homework problems? One method of doing this is reverse engineering stuff â€" peeling back the layers from a finished product to try to gain insights into the structure, process, and technology that underlies it. Reverse Learning works in much the same way. Plus, this is how it works once you graduate into the real world of engineering. This applies to all sorts of things. Test your knowledge early and often. Ever wonder why you can take pages and pages of notes, read the entire textbook, and sit through hours of lecture, but fail to answer virtually any question about the material immediately afterwards? Your focus drifts and your brain is off to the races about anything and everything besides the new material Who won the game last night? What should I have for lunch? Is that guy sleeping? This is what we call passive learning: So first, start with a problem from your study materials, making sure not to look at the solution beforehand. Then try your best to come up with the solution method and steps off the top of your head, without any supporting materials. Do the best you can and even guess if you have to. Write down what you can, and then go back and verify whether you were correct with the actual solution. Become a conditioned machine for attacking test problems. I always do well on projects and problem sets. And a huge chunk of that game, whether you like it or not, is test performance: Think of it this way. So I know that I have the skill. So not only do you need to rehearse a la Active Recall , but you also need to do it under time pressure, and do it often. But seriously, group projects suck bad. However, you can make the best of them. Take control â€" this is your education. Take this as a great opportunity to teach yourself how to use Microsoft Project. Or just map it out by hand. Whatever you do, split the project up into multiple deliverables and set intermediate target dates for specific work items e. Every single college engineering project I participated in ended up in a mad-scramble midnight dash. And ever single time it was entirely a result of poor planning actually, no planning. Set up regular on-campus weekly meetings, preferably during the day. Other classes, exams, tailgating, meet-ups, whatever, will always always seem to get in the way unless you can all get together and be held accountable in-person. Volunteer to do this unless someone else in your group has a burning desire to run the meetings. Being able to organize and run a technical team is probably the single most valuable skill you can develop in preparation for the real engineering world. Organize your meetings around your schedule deadlines, set an agenda beforehand by email, and make sure to assign and record next actions that each team member has committed to for the upcoming week. Hold your teammates accountable to getting their shit done on time.

Chapter 8 : 10 Reasons to Love Engineering | DiscoverE Engineering

I do not wish to say that engineering is a course that everyone should take. Nor do I wish to ask you to not pursue your passions. But what I do wish to do is to tell you why engineering is not a mistake, even if you do not end up getting a good job in your core field.

I take them one at a time. Some teachers have in class exams and some have take home. In class tests scare me to death, but the take home exams take longer. Straight A student at night. I changed to a math major and graduated without finding a job in the field. I work as a clerk. The list is a definite description of me. Toughest classes so far were statics and fluid mechanics. It puts ideas in my head. When I took fluid mechanics, the teacher would ask questions about how to solve the problem and few except me volunteered the answer. I got my hands on solutions manuals for some classes. I learn more from trying to understand the solutions than from the classes sometimes. I do as many problems as possible if I have a solutions manual. Night classes seem more easygoing than day classes, but there is still plenty of work involved. Reply rainer storn October 19, at 2: Staying in shape to sustain the heavy workloads etc. So what you really need to learn is to work efficiently to get very good results, and it is this working style that also helps you not only to get a good job but to be able to maintain a good performance without wearing yourself out. Reply Kim September 22, at 6: But you know what? Despite all that, I am a successful mechanical engineering student at a top college. July 1, at I never saw him fixing, creating, or tinkering with a single thing while growing up. He is a mechanical engineer now with over twenty years experience. He also completed his degree while working full time and raising two children. Life is hard enough. Give it your very best shot. Best of luck to you all! Parker R Anderson April 20, at You are born with it. This is basically the message that I got from this article. Reply Pranav Patel March 31, at I am a very observant person. I wanted to be an astronomer in 6th and 7th grade. Also wanted to be a surgeon idk why. Then I moved to a different date in 8th grade and then I decided I wanted to do Mechanical engineering becaue before I moved I used to live with my uncle wand we made stuff with wood, screws, and metal. We put together anything we could find to fix something or whatever and I missed that stuff when I moved so I realized that I loved tools and how they work and how different t mechanisms work. I fall in the category of smart intelligent and genius but mostly intelligent and a little bit but not too little of genius. I speak 3 languages fluently. Read speak and write. Grades show pure obedience not intellectual skills. So because of that I doubt my self. Maybe a little bit but not too much. But sometimes I gain confidence becaue I am part of my schools robotics team from FIRST and I have learned many things but I haveing really done them a lot by myself becaue I like to lead and do it together not boss around. But these are exactly the thoughts in my mind right now. Reply Sheila January 13, at Like programming and whatnot. Reply Peg Gotthold November 30, at 8: The first thing I would look at is her skill at taking tests, both in-laws and standardized. What I now realize, after a very successful year engineering career, is that 1 I am a poor test taker and 2 I am terrible at adding, subtracting, multiplying and dividing. What made the difference for me was that I was good at chemistry and physical sciences. Engineering courses, especially the first two years which are very heavy in sciences and math, will be difficult. However, there is another option. Many schools have a degree program which combines engineering and business management. While she may have to take the initial year in the sciences, the science and math burden is lesser in later years. B November 23, at 8: I am also a licensed professional engineer and I am an engineering consultant with a successful practice and have spent several years practicing engineering. I did take calculus courses in high school and actually wanted to get a Ph. I was passionate when it came to solving math problems still am , but I figured out how to turn that passion and apply it towards something more practical that I could make money doing. I disagree that you can tell whether someone will be a successful engineer by whether they like to fix things or take things apart. He is a very skilled technician though, and a very smart guy with a mechanical mind. I know too many people who go to college and take on a lot of debt and eventually end up with a degree, but no one will hire them except for retail and restaurant jobs. In fact, depending on what you go to college for, college can set you back in life. People will always need a good electrician, mechanic, etc. Many are very intelligent people. We need to be

guiding kids towards practical careers, tell them their passion is important, but be real with them about career prospects in certain areas and make them realize that your passion may not always pay the bills. Steve September 9, at 6: But back on topic, I think it also depends on motivation levels at certain times in life. For example, I was always decent at math but hated the sciences in high school. And soon, engineering classes. Going to retire in the somewhat near future and want to be an EE for next job. Reply Vivian November 4, at 4: So am asking do I stand a chance of being a good computer engineering student Reply Physics Dude October 2, at 6: I disagree with this page. Getting an engineering degree is nothing special, you take two years of math and physics and then move into designing courses, ethics and spend time in the laboratory. Thinking that you need to have some sort of resume coming into the degree to pass it, is at best, ridiculous. Would it hurt coming into computer engineering program knowing how to build a computer? But is it needed? Would it hurt coming into a civil engineering program after building a house? Engineers seem to have this ego to them that they are the cream of the crop program.. Often the weeding courses in Engineering programs are the introductory physics and math courses. Seriously though, the average engineering student will be lbs soaken wet, probably with acne on his face and white tube socks with white running shoes. An engineering degree requires a work ethic, not a resume. The first two years in engineering are so packed with content that you are at class all day while the sunshines, and you need to study for about a half an hour for each of the six classes everyday just to get enough of a grasp that lectures make some sense. Oh and did I mention that nearly all the classes you take have a 3 hour lab? I personally am about lbs and 6ft tall. And come on, acne comes from puberty which is right before the standard teen goes into university. While I would agree with most which you have written, personal appearance has nothing to do with what you can do. See you need passion to make it in engineering, and a drive to succeed when everyone else is quitting. You need this more than anything else, and far more than any other course load. Also engineers have been working to break the negative stereotypes and restrictions which describe an engineer. Reply Brandon March 1, at 9: I was the oldest child and my parents never went to college. I just lived the high school life playing sports, hanging out with friends and doing just enough to get by in the classroom. I graduated with like a 2. The main thing like physics dude said is your work ethic. In a STEM field the courses are no joke and you will have to study and work hard to push through it. You may be the person who likes to procrastinate and then study for an exam the night before the test or do the homework last minuteâ€¦I was like that. But if there is one thing that I believe will help you in the long run, no matter the STEM major you choose is getting really good at algebra. I always found myself going back and studying things I forgot how to do using algebra.

Chapter 9 : Istio Chaos Engineering: I Meant to Do That - RHD Blog

I do have a business degree as well, but prefer the engineering side of things. I still love engineering and do a lot of projects with my daughter on the side (she is 7). Here is the problem Two years ago I suffered a heart attack after leaving a gym and doing some swimming.

Print Key Info Finding an idea for your engineering project requires you to identify the needs of yourself, another person, or a group of people. The act of looking at the world around you to identify these needs is called need finding. To help you find an idea for your engineering project: Create a list of all the things that annoy or bother the people around you. Record this bug list in your Design Notebook. Mind Map possible design problems, ideas, or areas of interest to you. Once you have found an idea for your engineering project, describe the problem by writing a problem statement. Your problem statement must answer three questions: What is the problem or need? Who has the problem or need? Why is it important to solve? The format for writing a problem statement uses your answers to the questions and follows these guidelines: Who need s what because why. Before moving forward with an idea for your engineering project, be sure to evaluate your problem. We have resources available to help you evaluate your engineering project idea: Engineering Project Checklist Finding an Idea for Your Engineering Project You know that you want to do an engineering design project, but how do you come up with an idea or find a problem to solve? How do you uncover a new problem that no one has tried to solve yet? Or how do you pick and choose, from all of the products, systems, and environments already out there, one that you might want to improve? This process of uncovering a problem, or identifying the need for change or improvement to an existing solution, is called need finding. One really great way to start the need-finding process is to make a "bug list. They may seem like small and silly problems, but they can spark ideas for a project or lead to larger problems that you may not have noticed otherwise. Uncomfortable airplane seats When one light on a string of Christmas lights goes out How quickly chewing gum loses flavor Moving packing boxes, cleaning, unpacking, etc. Public restrooms without toilet paper Long lines at amusement parks When food gets stuck in vending machines Dog or cat hair that gets stuck on clothing Sharing armrests with strangers at the movies Wasting water in the shower Losing one earring Draining tuna fish cans Challenge yourself to come up with as many bugs as you can. You will be surprised at the number of bugs you can identify in the world around you. Start this list in your design notebook, and spend a few days recording your ideas. Notice that there are two different types of potential project ideas that you have come up with on your bug list. Second, there are poorly solved problems that have solutions, but the solutions are not entirely successful. Unsolved Problems One problem identified in the bug list is the issue of food getting stuck in a vending machine. There is currently no solution for this problem. If you put your money in the machine, select the food that you want, and then, the food gets stuck before it can drop to where you can reach itâ€”you are out of luck. You might try shaking or kicking the machine, but those are not designed solutions to the problem. In cases of unsolved problems, your engineering project would be to attempt to solve the problem. For this example, possible project ideas might be to design a product that can be used to remove stuck foods from vending machines or a new vending machine that makes it impossible for food to get stuck. Poorly Solved Problems An example of a poorly solved problem from the bug list is the issue of cat or dog hair getting stuck on clothing. There is currently a solution to this problemâ€”the lint brush. However, many people still complain about annoying pet hair on their clothes. Clearly, the lint brush is not the perfect solution. In cases of poorly solved problems, your engineering project would be to improve the existing solution or to replace the existing solution with something more successful. For the pet hair example, possible project ideas might be to make the lint brush more effective at removing hair from clothing or to design something better than the lint brush for the same purpose. Whether you want to choose an unsolved problem or a poorly solved problem for your engineering project, there are plenty of problems out there! Keep in mind that the problems already exist; you just need to identify them and their users. Defining the Problem Engineers solve problems by creating new products, systems, or environments. Before creating something, it is very important to define the problem. Otherwise, you might build something only to find that it does not

meet the original goal! To define your problem, answer each of these questions: The answers to these three questions are the what, who, and why of your problem. Your problem statement should incorporate the answers as follows: In design terms, who, what, and why can be defined as: Your problem statement should always look like this: If you are improving an existing solution for your project, keep in mind that the improvements will be part of your problem statement. For example, if you are improving a car radio, your problem statement might be: People need cheaper and better-performing car radios, because current radios are expensive and poor at picking up weak radio signals. Problem Statement Examples Here are some additional examples of engineering design problem statements: Students need an easier way to lock their lockers at school, because combination locks are hard to unlock and often get jammed. Evaluating Your Problem Statement The problem that you select for your engineering design project is the cornerstone of your work. Your research and design work will all revolve around finding a solution to the problem you describe. Here are some characteristics of a good problem statement: The problem should be interesting enough to read about and work on for the next couple months. There should be at least three sources of written information on the subject, as well as similar products to analyze. You want to be able to build on the experience of others! The problem is specific enough to allow you to design a solution. For an engineering project, it is important to think ahead to avoid difficulties and save you lots of unhappiness later. Imagine what you might design and make to solve your engineering problem. How does your possible solution stack up against these issues? Can you think of a way to measure whether your solution is better than what already exists? It is always best if you can measure your improvement numerically: Can you design a solution that is safe to build, use, store, and dispose of? Do you have all the materials and equipment you need for your solution, or will you be able to obtain them quickly and at a very low cost? Do you have enough time to complete your design and make it before the due date? Allow time for doing additional research and fixing problems. It is very rare for everything to work correctly the first time. Does your project meet all the rules and requirements for your science fair, if you are entering one? Have you checked to see if your science fair project will require approval from the fair before you begin construction? Now is the time to start thinking about getting approval if necessary for your engineering project. Engineering Project Proposal Form Fill out this Engineering Project Proposal Form so that you can get feedback on your science fair project from your teacher, parents, or other people you know who might give you valuable suggestions. Engineering Project Checklist Answer the questions in the quick checklist to find out if your project is on the right track. What Makes a Good Engineering Project? Does your project meet all the rules and requirements for the science fair? When printing this document, you may NOT modify it in any way. For any other use, please contact Science Buddies.