

Forum:[Hack Forums](#)

Thread: [Mechanical Engineering / IT can be self taught?](#)

f o r m i d a b l e - March 7, 2020, 5:57 am

My background is finance. I want to invent but also build expertise in Mechanical Engineering & IT fields.

It's going to be a physical metallic mechanism with computerized technology to operate. I do welding too, btw.

From a past engineer friend told me, all the calculus is unnecessary when one problem can be used throughout the career. Is this analogy correct in those fields?

Any tips/advice on where to start? Any good video course programs? Should I hire tutors?

I want to get there fast without a degree.

EDIT: I mean Technology, not IT.

webdev77 - March 7, 2020, 8:52 am

You haven't said where you want to get. Where is "there"? It sounds like you have some kind of plan to build something but didn't really directly state that.

f o r m i d a b l e - March 10, 2020, 11:03 am

(Mar 7, 2020 09:52 AM)webdev77 Wrote: [\[CITE\]](#) You haven't said where you want to get. Where is "there"? It sounds like you have some kind of plan to build something but didn't really directly state that.

Haha, yes I have a plan, I can't say what my plan is, hence it is an invention.

I want to run my own lab and create the physical requirements. Then have it manufactured, etc., but I know what to do on the business side.

keene91 - March 26, 2020, 10:28 pm

Here to find out what people say.. I am a business major but learning mechanical engineering always seemed interesting to me

mudbenson - March 28, 2020, 2:54 pm

I think IT can be self taught... There are a ton of resources online. Difficulty is finding where to start.

_Mysterious - March 28, 2020, 11:21 pm

There are a plethora of resources online in order to self teach yourself.

Werd - March 28, 2020, 11:28 pm

IT is easy to figure out online, you will have a harder time finding good, reliable resources for the ME side of things. Some sort of mentor is usually the best way to learn that type of thing outside of formal schooling. Some may argue a mentor might even be more useful.

Rsynced - March 28, 2020, 11:43 pm

Youtube is your friend ;p

Scumbag - March 30, 2020, 4:50 pm

Find a university that offers that specific program and look at their core curriculum related to ME. From there, you can google related texts and begin to learn fundamentals. It probably won't be an overnight process and also the majority of practical knowledge is learned on the job anyway from more experienced engineers.

GL

formidable - April 3, 2020, 2:08 pm

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As much as I'd like to find a mentor, finding the mentor would take the right time and place. I would also have to build relationship, but it can be accomplished. My debate is if I should pay them or offer equity in the business, but I would feel paranoid to hire a few engineers too early. Also the more equity I share, the more future investors will hate it, so I try to keep it 100.

I would buy the machines (or borrow/rent it) to produce the metal. It'd be easier to "reverse engineer" how to work the machines and then proceed off of that.

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(Mar 30, 2020 04:50 PM)Scumbag Wrote: [\[CITE\]](#) Find a university that offers that specific program and look at their core curriculum related to ME. From there, you can google related texts and begin to learn fundamentals. It probably won't be an overnight process and also the majority of practical knowledge is learned on the job anyway from more experienced engineers.

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Yeah I need to make sure to learn fundamentals without wasting time on unnecessary theories, then learn how to build the parts of my invention with suggestions from different engineers respectively.

I didn't think of learning it that way, but it's on point.

Capn_N3m0 - April 3, 2020, 7:46 pm

(Apr 3, 2020 02:08 PM)andromeda-m31 Wrote: [\[CITE\]](#) As much as I'd like to find a mentor, finding the mentor would take the right time and place. I would also have to build relationship, but it can be accomplished. My debate is if I should pay them or offer equity in the business, but I would feel paranoid to hire a few engineers too early. Also the more equity I share, the more future investors will hate it, so I try to keep it 100.

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If you're not technically literate, and there is a core component of the design that has some networking/IT fundamentals, then it might be worth contracting out/hiring a technologist to work on that portion of the device. There are ways to do this with a minimum of risk to you, such as using an NDA (Non-Disclosure Agreement). Even if they don't complete the task or get fired, you can sue them for any loss or damage to profit they might cause you.

Engineering is essentially applied physics and/or chemistry, and it either works or it doesn't. That said, manufacturing is a different process than engineering, and requires a different kind of thought applied to the process, as they don't always work well together because of the peculiarities of the manufacturing process. Once you have a design for a finished product, you can consult with an experienced machinist, small shop, or rapid-prototyping shop to see if any changes might be warranted or recommended, again, using an NDA to protect you if you feel that it is warranted.

Sometimes, an engineer might want a a port or channel in a particular place or location that simply doesn't work for the machine's ability to cut or grind, so the machinist might recommend making two parts, or relocating the channel in such a way that can accomplish the same task. It's wise to consult with, hire, or contract work out to people that simply have more experience than you when you're trying to get something done well. Even if it exposes you to some slight risk, our court systems and patent offices have literally been dealing with these issues for hundreds of years.

Neal Caffrey - April 3, 2020, 7:52 pm

It sounds like you're looking to actually build products - I'm not sure you'd need a formal education since most of what you're doing is applied (i.e. you can learn it as you go). The long way is to get a formal education, create a plan and build your product. The short way is to start building and fix anything that's wrong along the way.

Ahmad - April 4, 2020, 2:25 pm

(Mar 7, 2020 06:57 AM)andromeda-m31 Wrote: [\[CITE\]](#) My background is finance. I want to invent but also build expertise in Mechanical Engineering & IT fields.

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A degree in mech eng doesn't really teach you those things, industry will. But what an eng degree teaches you is discipline and the ability to learn, yes the calculus will not be really necessary, but an understanding of calculus will help you innovate. But from what you wrote it seems like you aren't looking to be a mechanical engineer, rather a personal with skills in that field. So tbh why not do an apprenticeship

Bear - April 4, 2020, 2:27 pm

No, it cannot be self taught Imfao.

f o r m i d a b l e - April 7, 2020, 1:53 pm

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I agree with those actions, which is the faster way to market consumer items -- by hiring/outsourcing. My invention would benefit society and economy. With such impact and recognition, it's better that I utilize knowledge of engineering and technology as the Chief Developer. I would sub-contract the technology side on the late stage, because that part is too tedious.

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Another concept similar the way you describe it is an architect showing his drawing to the engineer, then the engineer will say you can't do this, this, and that.

At least I know welding in my opinion is a much faster alternative to engineering. So the welded designs would be used as prototype.

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I've heard of senior engineers without degrees, and went through apprenticeship. The thing about apprenticeships is you have to learn what they plan you to learn. So why I might not do an apprenticeship is due to time constraints, because it really is a job. Unless they have apprenticeships in engineering for basic and practical applications, then I would join, but yet to find that.

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So that's not exactly what I was talking about, but sure.

An architect with a special, weird, or new design will show it to a structural engineer, because he can do the calculations to make sure that the design is safe, and can support the expected load without any issues. Likewise, you should show your idea to some people with some experience and knowledge in that arena because they could easily identify problems, or more efficient solutions to your thought process.

You could always try to audit a couple of engineering courses at a college, if you're just trying to learn some basics.

SawCyanic - April 20, 2020, 10:26 am

I don't think you need an ME degree to do ME things if you are starting your own company, which it seems like you are aiming to do. What may take someone with an ME degree a month to do may take you six months. In those six months you'd build six or seven versions of the end product you are trying to make, where the ME in the one month would do two or three versions and cement it faster.

Considering you are talking about welding it I assume you are looking into automated CNC manufacturing in order to make your final product and thats why you are looking into ME stuff?

ven0m - April 30, 2020, 7:52 am

As someone who holds a certificate on the aforementioned engineering, from the top of my mind, you will face problem with the labs and practical insights. ME is mostly practice-oriented and most of the university project requires specialized lab which is hard to find in self-taught courses. You can get the basic theory in the course nonetheless. Moreover, the subjects of the undergrad vastly comprise of Thermodynamics and the strength of materials which is cumbersome for many.

f o r m i d a b l e - February 4, 2021, 9:32 pm

Thanks everyone on the input. From here and outside inquiries, I concluded the best routing for me is to use conceptual learning for what it is I need to build. Which is easier hence college is just based on theories whereas a Masters level is more directed to actual concepts and in depth. I can always use textbooks, etc. My concentration should base on electrical engineering which is essentially the concepts of mechanical and civil engineering. Thus the electrical engineering has other divisions that are more specific which is easier to filter down. A few mentions here about hands on learning is more proficient than otherwise; I also have an answer to that through networking with other live engineers if need be.

pwnedcrypto - March 25, 2021, 1:44 pm

Absolutely. Around age 16 I basically ignored high school (even though I made A's till the end) and devoted my time to studying things related to IT and security. Google and Reddit are your best friends with this.

Give this website a look over: <https://teachyourselfcs.com/>