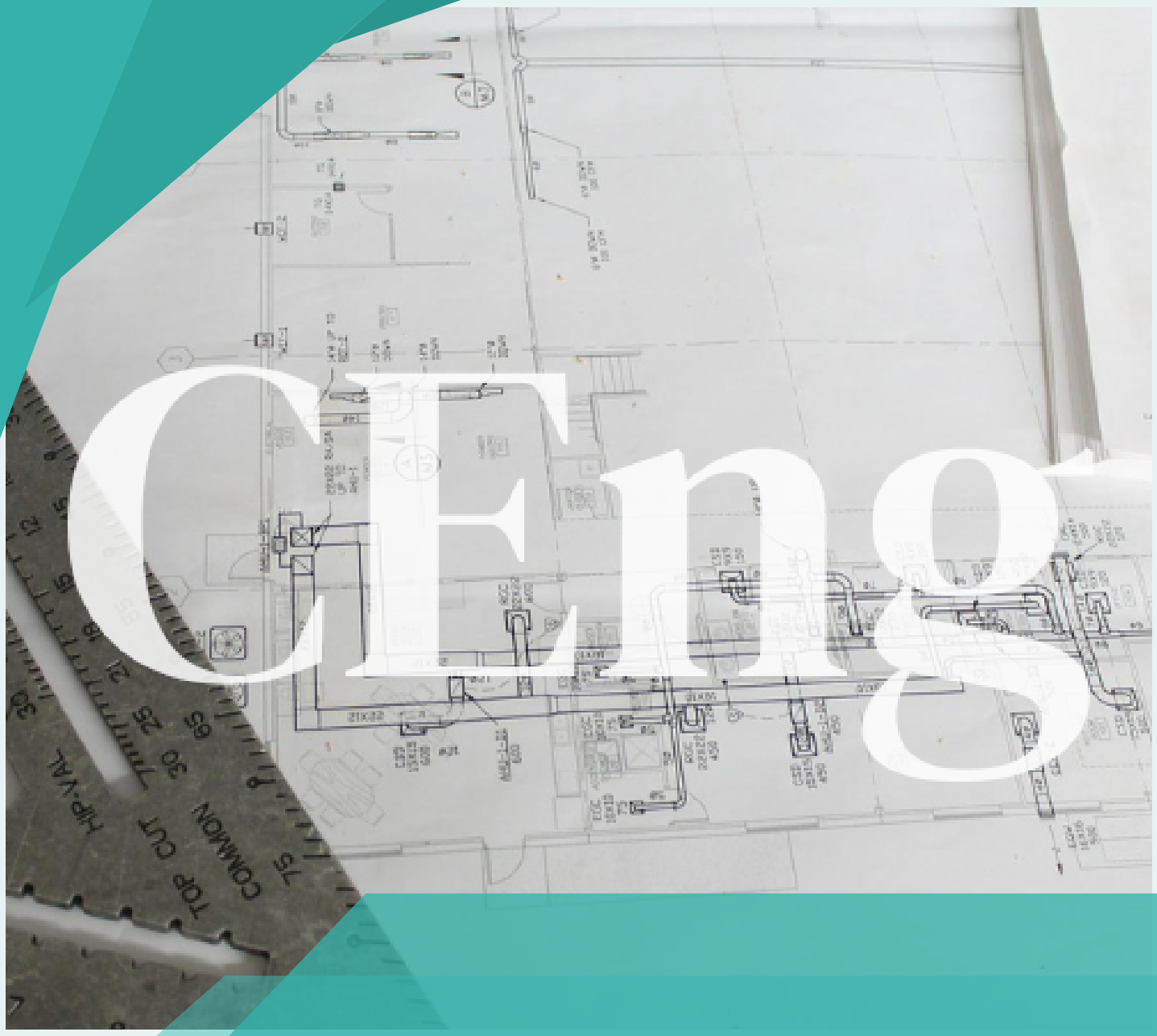

THE CHARTERED ENGINEER'S FREE RESOURCE PDF

ABOUT ME

I started the website stuartjbateman.com with one mission in mind which was to help the next generation of engineer's and those wishing to develop themselves, now I have The Chartered Engineer's Blog! which allows people to explore engineering excellence and innovation. Discover valuable tips, cutting-edge technologies, and thought-provoking articles on various disciplines.

By staying informed, inspiring others I hope to help them excel in their engineering & learning journey. It's important to keep learning in the field of engineering, since this topic is at the forefront of new discoveries, methods and techniques all of which have a heavy bias towards data and using it to make new gains.

This PDF is aimed at each individual to help them start developing and learning everyday. By showing them easy to use and free to use resources that I myself have benefited from and still use today. While also imparting some of my knowledge tips and tricks that I've learned over 15 years.

WHAT DO I DO?

- Post regular articles, ideas, thoughts, discussions on my site and several social media ones
- Encourage engagement with others to explore what we know and add depths to our understanding.

KEY SKILLS FOR SUCCESS IN ENGINEERING

As a chartered engineer I have 5 skills I consistantly keep practicing to improve myself and bring into my work.

Programming

In the contemporary world, programming is a requisite skill for engineers. It facilitates effective data management, translating raw information into actionable insights. Simultaneously, task automation enhances productivity and cultivates a competitive edge. Proficiency in programming empowers engineers to navigate the data-driven landscape and innovate efficiently.

Fast typing

Being able to type out what's on your mind is a significant advantage, eliminating the need to scatter hundreds of post-it notes around your desk. On a more serious note, tasks such as programming, creating technical documents, and preparing presentations would be incredibly time-consuming if you were limited to typing one key at a time while constantly glancing down at your notes.

Creative thinking

It's not just about creating a visual representation; it involves employing specialized tools and methodologies aimed at nurturing creative and collaborative solutions. Techniques such as Triz can be utilized to derive solutions from commonly attempted concepts, while methods like Grid brainstorming facilitate group engagement in refining and collectively evaluating each other's designs.

Statistics

An engineer's proficiency in Statistics is indispensable for validating experimental outcomes. The ability to transform data into meaningful insights stands as a pivotal skill. Concurrently, the competence to interpret charts and statistical findings is essential, enabling engineers to enhance their designs or pause and re-evaluate, ensuring informed decision-making.

CAD

One of the most potent resources at an engineer's disposal today is the integration of 2D and 3D Computer-Aided Design (CAD). In contrast to half a century ago, a single engineer can now accomplish the workload that previously required the effort of 30 drafters. This capacity to innovate, utilizing a fusion of imaginative thought, scientific principles, mathematics, and physics, empowers contemporary engineers to craft genuinely remarkable design solutions.

and the more common ones.

communication

technical proficiency

basic mechanic

teamwork

critical thinking

RESOURCES FOR LEARNING

Explore my top picks for the best sites and learning materials that will supercharge your engineering journey. From insightful online courses to vibrant engineering communities, these resources are your gateway to knowledge and growth.

CAD

1. **AutoCAD Official Learning Resources (autodesk.com/education/learn):** AutoCAD's official website provides a wealth of learning resources, including tutorials, webinars, and documentation. These resources cover various aspects of CAD design using AutoCAD software.
2. **SolidWorks Resources (solidworks.com/education):** SolidWorks offers educational resources for learning CAD design using their software. These resources include tutorials, videos, and certification programs to enhance your SolidWorks skills.
3. **Fusion 360 Learning Hub (autodesk.com/products/fusion-360/learn-training-tutorials):** Autodesk's Fusion 360 Learning Hub provides tutorials and guides to help you learn 3D modeling, parametric design, and simulation using Fusion 360 software.

FAST TYPING

1. **Keybr (keybr.com):** Keybr provides a simple and effective platform for practicing touch typing. It generates custom typing exercises and analyzes your typing patterns to provide targeted improvement suggestions.
2. **Typing.com (typing.com):** Typing.com offers free typing lessons, games, and tests to help users improve their typing skills. The platform is suitable for beginners and offers a variety of engaging exercises.
3. **TypingClub (typingclub.com):** TypingClub offers a structured typing program with interactive lessons and exercises designed to improve your typing speed and accuracy. The lessons cover various levels, from beginner to advanced.

PROGRAMMING

1. **Excel VBA Programming (excel-vba.com):** This website offers a comprehensive tutorial on VBA programming specifically tailored for Microsoft Excel. It covers various topics, from basic concepts to advanced techniques, with examples and downloadable resources.
2. **Wise Owl Tutorials (wiseowl.co.uk):** Wise Owl provides a range of tutorials on VBA programming, including videos and written guides. Their resources cover topics like Excel automation, data manipulation, forms, and more.
3. **Excel Campus (excelcampus.com):** While Excel Campus primarily focuses on Excel tutorials, it has an excellent section dedicated to VBA programming. You'll find tutorials, articles, and downloadable files that help you integrate VBA into Excel workflows.

My 5 skills to practice are covered in these sites

RESOURCES FOR LEARNING

STATISTICS

1. **Khan Academy (khanacademy.org):** Khan Academy offers a dedicated section for statistics, providing free video tutorials, exercises, and interactive challenges to help learners grasp various statistical concepts**.**
2. **Coursera (coursera.org):** Coursera offers free courses on statistics from top universities and institutions. While some courses may have paid options, you can often access course materials for free, including video lectures and assignments.
3. **HyperStat Online (davidmlane.com/hyperstat):** HyperStat Online is a comprehensive resource that offers explanations, examples, and interactive tools for learning basic statistics concepts. It's particularly useful for those new to statistics.

CREATIVE THINKING

1. **TED-Ed (ed.ted.com):** TED-Ed features a collection of educational videos and lessons, including topics related to creative thinking. You can find talks, animations, and exercises that encourage thinking outside the box.
2. **Coursera (coursera.org):** Coursera offers courses that specifically focus on creativity and innovation. These courses provide insights into fostering creative thinking, ideation, and finding innovative solutions.
3. **CreativeBloq (creativebloq.com):** CreativeBloq offers articles, tutorials, and inspiration for various creative fields, including graphic design, web design, and more. Exploring different creative disciplines can inspire fresh perspectives.

SETTING UP A LEARNING PLAN

USE THE KEY SKILLS ABOVE OR DECIDE ON WHAT SKILLS YOU WANT TO LEARN

Look at where you want to be and what that job is, look at recruitment ads to see what skills and knowledge is being asked for, use this as a base to create a learning plan.

CREATE THE PLAN

I recommend the good ole Action plan, this helps you set out what you want to learn and plan in dates when you want to complete it by and record when you actually completed it, use the chart to colour in how far along (%) the learning to track progress.

WHAT I DO EACH WORKING DAY

Use a priority matrix to prioritise your learning time, keep it simple by only working on 3 tasks at a time so you can stay focus and feel less overburdened (depending on how much you want to learn), once an item / task / learning is complete strike it off the list, add one to the bottom then update you action plan and start the next task.

Don't forget to block out 1 hour a day for your learning, either during the day or after it at home, the benefits from having 5-7 hours per week will be dramatic in the space of 6 months to a year when you're achieving your goals.

NETWORKING AND INDUSTRY ENGAGEMENT

With 15 years of engineering experience, I emphasize networking's importance for success. For young engineers, I recommend a blend of online and in-person efforts. Use platforms like LinkedIn and forums for connections and learning. Attend industry events too, exchanging ideas and building relationships. This mix fosters a strong network and enriches your engineering journey.

Online Interactions:

1. *LinkedIn Connections: Create a compelling LinkedIn profile highlighting your engineering expertise and career aspirations. Connect with professionals in your field, both within and beyond your immediate network. Engage with their posts, share relevant content, and initiate conversations to establish meaningful connections.*
2. *Engineering Forums and Communities: Join online engineering forums and platforms like Reddit's r/engineering or Stack Overflow for technical discussions. Participate in threads related to your specialization, ask questions, and contribute insights. These platforms are ideal for building a reputation and connecting with experts worldwide.*
3. *Industry Webinars and Webcasts: Identify webinars and webcasts hosted by reputable engineering organizations or companies in your industry. Participate actively by asking thoughtful questions during Q&A sessions and interacting with other attendees. This demonstrates your eagerness to learn and engage with industry thought leaders.*

Physical Interactions:

1. *Professional Conferences: Research and attend industry-specific conferences relevant to your field. These events offer a platform to meet fellow engineers, discuss the latest advancements, and learn from keynote speakers. Use networking breaks and social events to strike up conversations and exchange contact information.*
2. *Local Engineering Chapters: Many professional engineering organizations have local chapters or branches. Attend their meetings, seminars, and workshops to connect with engineers from your area. These events often feature presentations from experts and provide excellent opportunities for networking.*
3. *University Alumni Events: If you graduated from an engineering program, attend alumni events organized by your alma mater. These gatherings bring together graduates from different years and can provide a diverse network of professionals to connect with, some of whom might be well-established in the industry.*

By leveraging these diverse avenues for interaction – both online and physical – young engineers can effectively build a comprehensive network and foster valuable industrial engagements that will contribute to their professional growth and success.

THANK YOU

For taking the time in reading this short guide, I encourage you to visit my website for more in-depth resources, articles, and tips on engineering learning and development. I post regularly each month on LinkedIn and Pinterest.
If you wish to contact me you can do so via the website if you would like to discuss any topics I've mentioned in this guide or on the site.

In this guide we have explored several key areas that young engineers and individuals should work on to develop themselves:

- Key skills
- Resources for learning
- Learning plan
- Networking