

NEED OF SOFT SKILLS FOR TECHNICAL STUDENTS

Dr. A.V.RAGHURAM
Associate Professor of English
Department of Science and Humanities
Sri Vasavi Institute of Engineering and Technology
NANDAMURU
Krishna Dist. A.P

Abstract

Soft skills for engineering students are of absolute importance. If you are studying to be an engineer, and want to build a solid career in the field, then it is time you focus on developing the soft skills essential for your work as an engineer. In this article, we look in detail at soft skills and how they help engineering graduates bag their dream job! Soft skills are the set of skills that will enable you to be good at your job. Technical skills that help you excel at doing your job are not enough to thrive in your career or at your workplace. Soft skills are the skills that actually define your overall performance and how well you fit in your job. Soft skills are a combination of personality, behavioral and social attitudes, career attributes, personality traits, mindset, and emotional and social intelligence. Soft skills decide the aptitude you have towards the above-mentioned traits/elements. Hiring bodies in any organization prefer to get on board, people with strong soft skills. Be it a job in any field, soft skills are a very vital part of succeeding in your career.

Key Words: attitude, behavior, communication, recruitment, skills, students, technical

Introduction

From schools to colleges, most institutions take their students through at least one module of soft-skills training as a mandatory subject for the semester/school year. Anyone strong with their soft skills is someone who can effectively communicate and manage conflict promptly.

Soft skills are fundamental for anyone actively seeking out a job. For anyone to be successful in their career, they must possess a robust set of soft skills. This is necessary, especially for students doing technical courses like engineering and more. Let's talk more about why Engineering students need to make sure they have the required set of soft skills when they graduate. Soft skills for engineering are critical and inevitable for engineering professionals to succeed in their jobs. Just technical skills are not enough to build a strong career. Soft skills for engineering students are essential for their professional success because:

To be a successful software engineer, you'll have to rely on more than just your technical skills. Long gone are the days of zoning out the rest of the world as you perfect your code. Hiring managers and recruiters now seek out engineers who not only are amazing at what they do, but also bring key soft skills needed to effectively interact with their team every day.

Why are soft skills so important for engineers? No matter how big or small your company is, as a software engineer you're never working in a vacuum—whatever you're doing is always part of a larger system. "You need to be able to communicate and collaborate with other engineers who are working on different pieces of that system, as well as cross-functionally with product managers, designers, and others who are contributing to the design of the system that you'll help implement," says David Kaminsky, a senior engineering manager at StubHub (and a former director of engineering at The Muse).

When you think about it this way, it's clear that soft skills aren't just about making yourself and the people around you feel good. Being able to apply them can make a difference in creating an effective product and a positive user experience.

Read on to learn about the most important soft skills you'll need as an engineer—and why they'll help you not only get hired, but also get better at your job every day.

Communication

As with any job, communication is key to your success as an engineer. Hiring managers look for candidates who can communicate their ideas clearly and concisely.

Not only is it essential to communicate with fellow engineers, but it's important to be able to work with non-technical folks as well. There will surely be times when you have to collaborate with people in other departments, whether you're trying to understand project requirements or you need to explain to a stakeholder why something can't be done as they've requested, and you'll have to be skilled at breaking things down as simply as possible.

Kaminsky says communication is the first soft skill he looks for during the early stages of the hiring process. "My first round interviews involve no real 'tests.' It's all just a conversation to see how well an individual can communicate about themselves and the work they've done, as well as the technical detail of that work," he says.

"Can they explain the software they've built from an end-user way so I understand its purpose and why it was interesting and useful? Can they go deeper on the technical choices they've made in the past? The former tells me a bit about how well they'll communicate cross-functionally. The latter about how they'll be able to communicate with other engineers."

Soft skills related to communication include:

1. Active listening
2. Public speaking and presentation
3. Writing skills
4. Verbal and non-verbal communication
5. Negotiation
6. Persuasion
7. Leadership
8. Teamwork
9. Empathy
10. Patience
11. Diplomacy

How to Develop Communication:

"Communication *is* a skill and it can be improved," explains Ximena Hartsock, co-founder of the communications platform Phone2Action. "So start by having more conversations. Don't just rely on electronic communication. Get out and talk, and do it often."

If you struggle with communicating, Lillian Landrum, The Muse's Director of Talent Acquisition, who has 10 years of experience hiring engineers, suggests starting small. It can be as simple as striking up a brief conversation with someone outside of your department. "Get to know people outside of your team and learn about what they do. Try to attend some of the company happy hours, or sign up to be part of a committee," she says. "Even just moving to a different desk and seeing what another engineer is working on can help you build those skills."

Hartsock adds, “Engineers can look for opportunities to present, whether at internal lunch-and-learns or at meetups. When you do, solicit feedback from colleagues who attended or send a [follow-up] survey to participants.”

Hartsock says this is a strategy Phone2Action implements with participants in its Civic Tech Fellows Program, an apprenticeship that teaches students skills needed to work in the field of civic technology.

“We are constantly asking [our fellows] to give presentations, to write blog posts, and to interact with our staff, and we give them as much feedback as we can. Over the course of the summer, you can really see the difference. By the time they graduate, they are much better communicators.”

For Kaminsky, honing his communications skills came as a result of pushing himself outside of his comfort zone. “I’ve gone to meetups and conferences alone and forced myself to meet people,” he says. “It’s exhausting for me as a bit of an introvert but it’s worth it.” Whether you’re an apprentice or a senior-level engineer, actively seeking out opportunities to present your ideas and engage with your peers is the best way to keep your communication skills up to speed.

Intellectual Curiosity

Hiring managers want to know you’re a lifelong learner, someone who’s eager to evolve and stay current in your skillset. “Technology is always changing,” says Hartsock. “Whatever you learned, even if it was six months ago, might no longer apply [in a current role]. You need a natural desire for self-learning because it’s an ongoing process.”

Hartsock also notes the value of asking questions, whether it’s about projects you’re working on, tasks you need to carry out, or goals you want to accomplish. These questions, Hartsock says, are what lead to improvements in engineering products and processes.

“We want to see [engineers] asking, ‘Why are we doing something a certain way? Why are we doing it at all? In what order?’ That kind of intellectual rigor is important.”

Soft skills related to intellectual curiosity include:

1. Problem-solving
2. Creativity
3. Critical thinking
4. Innovation
5. Troubleshooting
6. Brainstorming
7. Research

“Engineers should not be passive when they are assigned tickets,” Hartsock says. “They should ask questions and ensure there is time for research. Research is a tremendous opportunity to learn, and it can be as important as coding itself, saving time and introducing more elegant solutions.”

Further, Hartsock explains, “Coding is a creative process but is also highly analytical and offers different paths to an answer. Engineers can treat every sprint ticket as a new and exciting challenge to tackle.”

Even if it’s a problem you’ve seen before, it’s always worth taking the time to see if there’s a quicker or more efficient solution. Looking at older processes with a new perspective helps you to stay engaged and keep your skills sharp.

Landrum stresses the importance of being active in the tech community, both on and off the job. “There are so many ways to expand your knowledge in the tech world,” she says. “It can be everything from listening to podcasts to contributing to a blog or working on side projects. All of these factors can help to make sure you’re really in tune with your industry.”

Landrum suggests going to local meetup groups, subscribing to tech newsletters, or attending a conference.

Openness to Feedback

When you’re executing tasks at work, it’s vital to not only accept feedback (both positive and negative), but also to apply it accordingly. Being open to feedback is an essential quality Hartsock looks for when conducting interviews for engineering roles. “You can have a wonderful employee but if they don’t respond to or provide feedback, they won’t grow within the organization,” Hartsock says.

If the interview process involves an in-person technical challenge like a white-boarding exercise, the hiring manager will definitely take note of how you react to any feedback during that session. It’s smart to confirm that you’ve understood what the interviewer is telling you (“Got it, so what I’m hearing you say is...”) and ask questions if anything is unclear.

But your answers to interview questions like “What are your strengths and weaknesses?” can also give clues to how you approach feedback and growth.

“Surprisingly, some people will tell you, ‘I don’t make mistakes at work,’” Hartsock says. “Or we’ll tell candidates to rate themselves on a scale from 1-10 in different skills and some will give themselves a 10 in every area.”

Newsflash: The chances that you really are a 10 in every area are pretty slim. Portraying yourself as the perfect candidate can come across to managers as a lack of self-awareness. Instead, be honest about your strengths and areas for improvement to make it known that you’re good at self-evaluation and also receptive to feedback from others.

Soft skills related to openness to feedback include:

1. Adaptability
2. Collaboration
3. Self-awareness
4. Resilience
5. Cooperation
6. Respectfulness
7. Flexibility
8. Managing your emotions
9. Humility

Figuring out best practices for this soft skill can be tricky, and will vary based on the situation and the person you’re giving feedback to or getting feedback from. No matter what, the key is to maintain professionalism and remind yourself not to take any of it personally.

“It is possible to give or receive detailed feedback and to do it in a positive way,” Hartsock explains. “Be clear. Be polite. Be supportive. Be direct. Disagreements will arise from time to time, and how you meet those is important.”

While sharing feedback can feel awkward if you don’t do it that often, Hartsock suggests to start with the idea that you’re part of a group of colleagues who want to make your project—and each

other—better. Remember the goal is to create the best product or user experience, so keep that in mind to frame any feedback you give or get.

It's easy to get deep into a project and skip over the feedback part of it, so Hartsock recommends forming a habit of offering feedback to others regularly. When your colleagues see your consistency in sharing suggestions or concerns, it can help them get more comfortable doing the same.

Conclusion

Working on your soft skills can be a challenging and lengthy process but you don't have to do it alone. Consider enlisting the help of others who can give an objective opinion. Landrum recommends finding a mentor, especially when you're first starting out in the industry. "[Your mentor] is someone you can reach out to weekly, monthly, or quarterly and ask questions," she says. "Especially for [junior] engineers, you want to have someone who's available to help when you need them." A current or former co-worker or boss can give you insight on areas where you might need improvement, since they've had the experience of working alongside you on a regular basis. And you probably know someone in your professional network who has mastered the soft skills you're working on, so reach out and ask if they're willing to share how they've done it. The most important factor in honing your soft skills goes back to the idea of honest self-evaluation. It's not always easy or comfortable to think about skills to improve on, but the only way to get better is to recognize how you need to grow and take actionable steps to make progress.

References

1. Barbara Cimatti, Definition, Development, Assessment of Soft Skills and their role for the Quality of Organizations and Enterprises, *International Journal for Quality Research* 10(1) 97–130, 2016
2. Barun K. Mitra, *Personality Development and Soft Skills*, Oxford University Press
3. Fantilli, R.D., & McDougali, E. (2009). A study of novice teachers: Challenges and supports in the 1st years. *Teaching and Teacher Education* 25, 814-825. University of Toronto, Ontario Institute for Studies in Education.
4. Flores, M.A., & Day, C. (2006). Contexts which shape novice teachers' identities: A multiperspective study. *Teaching and Teacher Education*, 22(2), 219-232.
5. Govind Singh Kushwaha, *Role of Soft Skill and Personality Development*, Research Gate, February 2012
6. Hairuzila, I. (2009). Challenges in the integration of soft skills in teaching technical courses: Lecturers' perspectives. *Asian Journal of University Education*, 5(2), 67-81.
7. Schulz, B. (2008). The importance of soft skills: Education beyond academic knowledge. *NAWA Journal of Language and Communication*, June, 146-154.
8. Shoffner, M. (2011). Considering the first year: Reflection as a means to address beginning teachers' concerns. *Teachers and Teaching: Theory and Practice*, 17(4), 417- 433.