



7. Expectations of an Engineer

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Course Website

<http://54.243.252.9/ce-4200-webroot/>

Readings

1. [Lawson \(2022\), *Early Career Guidance* Lecture to accompany CE 4200, Whitacre College of Engineering, Texas Tech University](#)
2. [Lawson \(2022\), *Early Career Guidance* Handout to accompany CE 4200, Whitacre College of Engineering, Texas Tech University](#)

3. [Environmental Engineering BOK](#)

Videos

1. [7 Most Important Skills for a Civil Engineer to Succeed \(updated\)](#)
3. [What Do Civil Engineers Do?](#)
4. [Pros and Cons of of being a Civil Engineer](#)
5. [Highest Paying Countries for Civil Engineer \(Civil Engineering\)](#)

Purpose

The purpose of this lesson is to provide guidance and preparation for the upcoming **Job Fair**, equipping you with the mindset and foundational strategies to make the most of the opportunity. While this lesson is primarily **motivational**, its impact might not feel immediately tangible. However, upon reflection, you may realize you've absorbed valuable insights that influence how you approach the event and your career development.

Key Objectives:

- **Motivate and Inspire:**
 - Encourage a proactive and confident approach to networking and presenting yourself to potential employers.
 - Highlight the importance of viewing the Job Fair as a learning experience, regardless of immediate outcomes.
- **Preparation for Action:**
 - Ensure you approach the Job Fair with a clear purpose and realistic expectations.
 - Provide strategies for effective communication, self-presentation, and professional etiquette that can help you stand out.
- **Set the Stage for Growth:**
 - Plant the seeds for a growth-oriented mindset that aligns with the follow-up lesson on **Attitude**.
 - Connect the dots between motivation, preparation, and attitude, emphasizing how

these elements contribute to long-term career success.

Why Motivation Matters:

Job Fairs can feel overwhelming or intimidating, but this lesson is designed to help you see them as **opportunities for growth**, not just high-pressure events. By cultivating the right mindset:

- You'll view conversations with employers as a chance to learn and gain feedback, not just as "make-or-break" moments.
- You'll build resilience and adaptability, critical skills in navigating your early career path.

Remember, the focus here is less about specific knowledge or skills and more about **how you approach the process**. Keep this in mind as you review these notes and consider how your attitude and preparation can shape your experience.

Looking Ahead

In the next lesson, **Attitude**, we'll dive deeper into how maintaining a positive, professional, and resilient mindset can have a transformative impact on your career. For now, take the motivational messages from this lesson as an invitation to prepare mentally, emotionally, and strategically for the opportunities ahead.

Developing A Personal Career Plan

Warning

Subsection under development

Introduction

A question frequently asked by graduating senior students is, how do I know what job to choose? Perhaps now you are not thinking about getting a job. But imagine that in about 6

months, you find yourself with multiple job offers, as some of our students are doing. How would you answer this question? This is actually a misdirected question. More specifically:

- Not a job, but a fit*
- Not what others want for you, but what you want for yourself
- Not just salary, it's about personal satisfaction

Note

*Fit is currently (circa 2022) a trigger word in HR circles.

Job Hunting 101

You are not looking for a job. You are looking for a good match between your skills, talents, gifts, abilities, interests and needs, and a place/way to express those in the workplace. In this way, job hunting becomes transformed from a filtered search (numbers game) to a diligent, focused inquiry for information and insight both inward (yourself) and outward (potential employers).

Exercise: What are you good at? Can you think of a way to express this in the workplace?

Note

You have to eat, have shelter, and such. While usually it is better to be a king in hell than a slave in heaven; There will be times in your career when these simple requirements (food, clothing, shelter) will dominate decisions, and that's OK - but have an exit plan.

Do you have goals?

It has been said that the happiest time in your life are when you are pursuing a goal. Aimlessness is not fun. What are your goals? What about after graduation? Where do you prefer to live? What type of work interests you? Do you plan to save money and grow wealth? Do you think you will continue your formal education? Want to travel? Want to start

a family? Spiritual. Vocational. Educational. Financial. Personal. Your assignment gets into this.

What about multiple offers?

Learn about the companies that appear interesting to you.

Start with research, and refine your inquiry with the interview and office (or site) visit.

This is not only a great way to make a clear impression that you are deeply interested in the company, but to communicate that you have things personal and unique to offer.

- Identify what is important to you. What are the factors? Categories and subcategories.
- Put weighting factors on these (point spread).
- Carefully reflect on how you should rank each opportunity.
- Sum them up.
- Make your decision

WCOE Services

- The mighty Job Fair!

www.depts.ttu.edu/coe/careers/students/jobfair.php

Job Fairs | Students | Careers | Whitacre College of Engineering | TTU

EngineeringAboutDepartments & ProgramsStudentsResearch

Students

Engineering Job Fairs

Whitacre College of Engineering Job Fair

You may not realize this, but finding your dream job is actually a full-time job in and of itself. Sending resumes, applying, researching the companies, and preparing for interviews is a time-intensive process. That's why the College of Engineering has two job fairs every year. We bring the companies to you! Our goal isn't just to give you one of the best educations in the world. We want to ensure that when you complete your studies, you can properly showcase what you've learned by getting the job that will put you on the path to success.

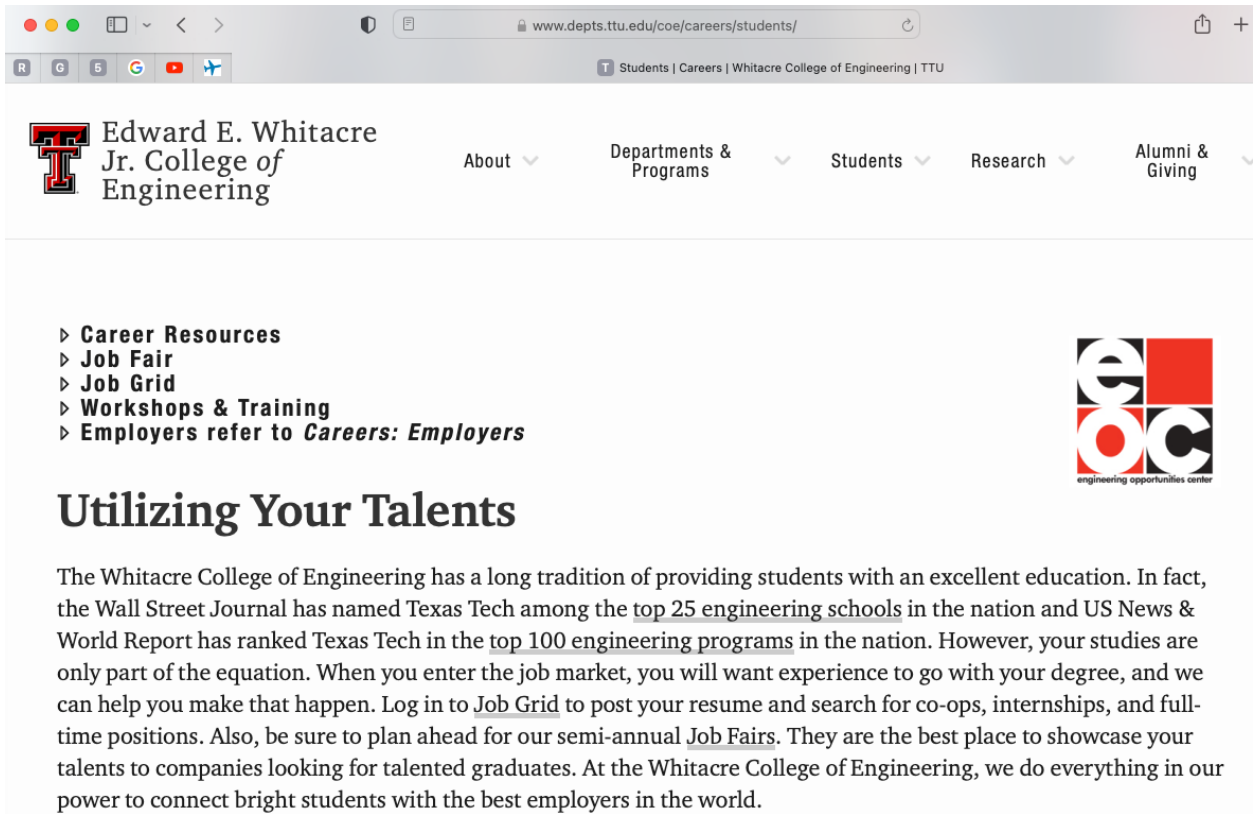


Meet the Companies

"Meet the companies," is probably the most important piece of advice students can hear when looking for a job, but many students don't take enough opportunities to follow through.

The Whitacre College of Engineering Job Fair is the perfect chance to meet companies looking for Texas

- JobGrid!



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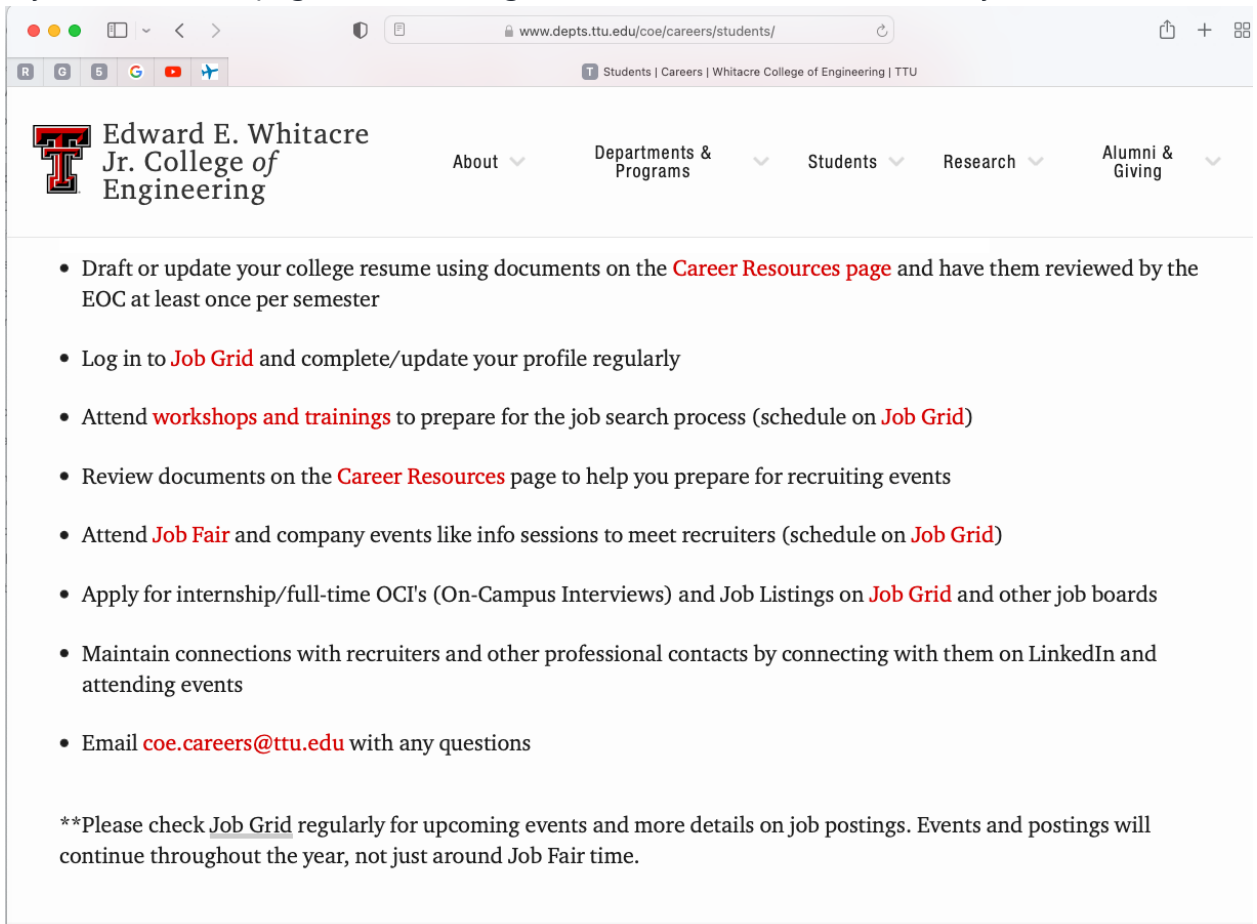
About Departments & Programs Students Research Alumni & Giving

▶ Career Resources
 ▶ Job Fair
 ▶ Job Grid
 ▶ Workshops & Training
 ▶ Employers refer to *Careers: Employers*

Utilizing Your Talents

The Whitacre College of Engineering has a long tradition of providing students with an excellent education. In fact, the Wall Street Journal has named Texas Tech among the top 25 engineering schools in the nation and US News & World Report has ranked Texas Tech in the top 100 engineering programs in the nation. However, your studies are only part of the equation. When you enter the job market, you will want experience to go with your degree, and we can help you make that happen. Log in to Job Grid to post your resume and search for co-ops, internships, and full-time positions. Also, be sure to plan ahead for our semi-annual Job Fairs. They are the best place to showcase your talents to companies looking for talented graduates. At the Whitacre College of Engineering, we do everything in our power to connect bright students with the best employers in the world.

- If you visit WCOE pages here is the guidance for the Job Grid/Job Fair



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About Departments & Programs Students Research Alumni & Giving

- Draft or update your college resume using documents on the **Career Resources** page and have them reviewed by the EOC at least once per semester
- Log in to **Job Grid** and complete/update your profile regularly
- Attend **workshops and trainings** to prepare for the job search process (schedule on **Job Grid**)
- Review documents on the **Career Resources** page to help you prepare for recruiting events
- Attend **Job Fair** and company events like info sessions to meet recruiters (schedule on **Job Grid**)
- Apply for internship/full-time OCI's (On-Campus Interviews) and Job Listings on **Job Grid** and other job boards
- Maintain connections with recruiters and other professional contacts by connecting with them on LinkedIn and attending events
- Email coe.careers@ttu.edu with any questions

****Please check Job Grid regularly for upcoming events and more details on job postings. Events and postings will continue throughout the year, not just around Job Fair time.**

Other Services

[Indeed.com](#). I know of 2 people since 2014 that found engineering jobs and accepted them using Indeed so its not bunk.

[Monster.com](#). A little more geared to IT and manufacturing chump jobs, but much like Indeed.

[USA Jobs](#). All federal jobs post here - Corps of Engineers, Bureau of Reclamation, NTSB, USGS, US EPA there are a fair amount of entry level engineering jobs all over the USA and globally. Many have citizenship requirement; but a large number only require right to work in USA. Its a pain in the ass to get everything uploaded, but once done it is easy to apply for new jobs as they arise - i think uploads are stored on their server for 2 years, and they email you when your data is about to pumpkin.

Note

If you are a veteran (and old enough like me), many jobs require documents that don't exist for you - its an IQ test; I place documents that state: "At the time of my discharge such forms/requirements did not exist hence such a form is not applicable" then upload as a PDF with the proper form name to get by the computer screen. If a human ever sees your application they can institute a work around.

USA Jobs knows about this flaw, but they don't have a fix yet.

Note

"Ok, I kind of tricked you with that job fair stuff, but you should be able to make a potential employer believe you are aware of the future expectations of a civil engineer." The remainder of the lesson is formally addressing the actual title; i'll try to avoid such shenanigans most of the time

Future Expectations of a Civil Engineer

The role of a civil engineer has always been pivotal in shaping the infrastructure and urban

landscapes we rely on daily. As we move further into the 21st century, the expectations for civil engineers are rapidly evolving, driven by technological advancements, environmental challenges, and the need for sustainable development.

Technological Integration

One of the most significant expectations for future civil engineers is the integration of cutting-edge technology into their work. With the advent of smart cities, engineers are now expected to be proficient in using digital tools like **Building Information Modeling (BIM)**, **Geographic Information Systems (GIS)**, and **artificial intelligence (AI)**. These technologies allow for more efficient design, construction, and maintenance processes, reducing costs and improving the overall quality of projects. Engineers will need to continually update their skills to keep pace with these technological changes.

Sustainability and Environmental Stewardship

Another critical expectation is the focus on **sustainability**. As the world grapples with climate change and resource depletion, civil engineers are expected to design and construct infrastructure that minimizes environmental impact. This includes:

- Utilizing **green building materials**.
- Designing **energy-efficient structures**.
- Incorporating **renewable energy sources** into projects.

Future civil engineers will also play a key role in developing **resilient infrastructure** that can withstand extreme weather events, ensuring safety and longevity in the built environment.

Global and Cultural Awareness

As the world becomes more interconnected, civil engineers must develop a **global perspective**. Projects often span multiple countries and require an understanding of diverse cultural, regulatory, and environmental contexts. Engineers are expected to:

- Be adaptable and work effectively in multicultural teams.
- Communicate across cultural and linguistic barriers.

This global awareness is essential for managing international projects and ensuring infrastructure development aligns with local needs and values.

Ethical Responsibility and Public Welfare

Ethics and public welfare have always been at the core of civil engineering, but these expectations are intensifying. Engineers are expected to:

- Address social issues such as **affordable housing, access to clean water, and equitable infrastructure development**.
- Navigate complex ethical dilemmas, balancing the needs of stakeholders while upholding public safety and welfare.

A strong commitment to ethical principles and a deep understanding of the societal impact of engineering decisions are now indispensable.

Lifelong Learning and Professional Development

Finally, future civil engineers are expected to embrace **lifelong learning**. The rapid pace of technological innovation, evolving environmental challenges, and shifting societal needs mean engineers must continuously update their knowledge and skills. Strategies include:

- Pursuing ongoing education and certifications.
- Participating in industry organizations.
- Staying informed about emerging trends.



Digest

The future expectations of a civil engineer are vast and multifaceted. They encompass **technological proficiency, sustainability, global awareness, ethical responsibility**, and a commitment to **lifelong learning**. Meeting these expectations will not only your success but also contribute to the advancement of society.

Discussion

- Are any of these expectations described in the ASCE BOK? If yes where?
- What do you think about the essay above? Does it coincide with your expectations and aspirations as an engineer? What's missing?

End of Section