



Sloan Career Cornerstone Center

Profiles of Chemical Engineers



William Huang

**Process/Specialty Engineer
Fluor Daniel Inc.
Sugar Land, TX**

Education:

B.S. - Chemical Engineering, University of Texas at Austin

Job Description:

Process/specialty engineer

Advice to Students:

"Once you go into industry, you learn that it's different from academia. In school you can work all night, stay up 24 hours to complete a project. Well, that's not something that you can really do at the workplace, primarily because no one works alone in the workplace."

Video Transcript 1:

"Primarily, I work with the other process engineers on my task force. Each of our projects are broken up into a task force where you'll have multiple groups of engineers. The way we execute our projects is in a phase method where you begin the initial phases, conceptual design work where there may be a lot of process engineers on that project. And as you reach the detailed engineering phase where you actually are specifying the exact type of equipment that needs to be purchased, you bring on the mechanical engineers to work with the vendors to actually procure the equipment from the various vendors."

Video Transcript 2:

"When I applied for my internship, I looked at the yellow pages. I called every engineering company and when I got to "F," Fluor Daniel actually offered me an interview over the phone. I think there are ways to look for leads. The newspaper is one way. You can kind of get an idea of what companies are hiring, what the industry and what the market is like. You can contact professional societies; they have contacts throughout the world in all areas of engineering and all industries. So I think if you only look at the recruiting aspect of on campus, you are limiting yourself. And also, you're competing with all the other students that you're attending classes with as well as at the other targeted universities."

Video Transcript 3:

"I think one of the most important things you learn quickly once you go into industry is that it's different from academia in that in school you can work all night or stay up 24 hours to complete

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a project. Well, that's not something you can really do at the workplace, primarily because no one works alone in the workplace. You really have to work in a team environment. You have to have your deliverables ready for the next person when they need it. So, because of that, you quickly learn that you need to balance your time and manage your activities, and manage your deadlines."

Interview:

Huang: My name is William Huang. I'm a process engineer at Fluor Daniel, and I graduated from the University of Texas at Austin with a bachelor's in chemical engineering.

Q: Who do you work with on a daily basis?

Huang: Primarily, I work with the other process engineers on my task force. Each of our projects are broken up into a task force where you'll have multiple groups of engineers, process engineering being one of them. I work with the other engineering disciplines when we interface on different aspects of the projects. Some of the other engineers we work with include mechanical, piping, civil, structural, and instrumentation. We execute our projects in a phase method, where you begin the initial phases and conceptual design work, and there may be a lot of process engineers on that project. As you reach the detailed engineering phase, where you actually are specifying the exact type of equipment that needs to be purchased, you bring on the mechanical engineers to work with the vendors to actually procure the equipment. Process engineers primarily interact with the other engineering disciplines and the clients. We have a very strong client relationship.

Q: Tell us about your progression of experience at Fluor Daniel. What do you do as a process engineer?

Huang: I first started my relationship with Fluor Daniel as a summer intern. I was fortunate enough to find a summer internship position right after my freshman year of college, and I continued to work my summers here in the Houston office as a summer intern for three summers. So having that undergraduate experience as an intern was very beneficial in helping me choose Fluor Daniel as a company after graduation. As a process engineer, one of my responsibilities is to interact with other engineers on a project to help our clients execute their engineering projects.

Q: How does one go about finding a job as a chemical engineer?

Huang: Recruiting is the primary way, but that's not the only way. For example, when I applied for my internship, I looked at the yellow pages. I called every engineering company and when I got to F, Fluor Daniel offered me an interview over the phone. But I think students who only look at campus recruiting, or on-site recruiting, as the only way to apply for a job are selling themselves short. I think there are ways to look for leads. The newspaper is one way. You can get an idea of which companies are hiring, which industries, what the market's like. You can contact professional societies; they have contacts throughout the world in all areas of engineering and all industries. If you only look at the on-campus recruiting aspect, you are limiting yourself. Also, you're competing with all the other students that you're attending classes with, as well as at the other targeted universities.

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Q: Are you interested in any kind of managerial or management position at Fluor Daniel?

Huang: I definitely see myself getting involved in more of a management role. I've always enjoyed working with people, organizing activities, and working in a technical environment. A lot of what you do is on your own, researching and gathering information, but in my industry I have to communicate and work with other engineers. One of the things I enjoy doing is working with groups of people and actually executing projects and making things happen. So I do see myself eventually getting into a management position where maybe I'd be leading a project or working as a lead process engineer where I'm running or responsible for a particular area of a project.

Q: What kind of clients are you working with?

Huang: We work primarily with energy, petrochemical, and petroleum companies. A lot of our clients are based near our different geographic locations. For example, in Houston, because of the Gulf Coast area, there are a lot of facilities, manufacturing plants, and operating companies which is why our focus is petroleum, petrochemical, chemical, and refining companies. In our other corporate offices, we have different clients. For example, we have automotive clients, we have government, energy, and defense clients. There are a multitude of clients, but they're broken up by the geographic markets in which we serve.

Q: What types of ongoing professional development are you involved in?

Huang: Training is very important in our company. There are a lot of resources that are available to our engineers. For example, on CD-ROM, we can access just about any sort of training information. There are various computer-based training programs, as well as books and videos you can check out for self study. In addition to that, there are tuition reimbursements, so if I take a class at a community college or at one of the local universities, I can get reimbursed from Fluor Daniel for that class. That certainly helps continue my training, in terms of classroom training. In addition to that, I'm currently working towards earning my professional engineer's license. When I graduated, I took the Engineer In Training exam and passed that. Now, with four years of experience, I can apply for the P.E. license.

Q: Do you use the same time-management skills you used in college?

Huang: Once you go into industry, you learn that it's different from academia. In school you can work all night, stay up 24 hours to complete a project. Well, that's not something that you can really do at the workplace, primarily because no one works alone in the workplace. You work on teams, so you really can't let your team down and wait till the last minute to do everything in one night. You really have to work in a team environment. You have to have your deliverables ready for the next person when he or she needs it. Because of that, you quickly learn that you need to balance your time, and manage your activities and deadlines. I think I've successfully balanced my work life with my personal life. When I need to, I work long hours and I'll work hard, but once the work is done, I go home and I enjoy the free time I have with my friends and my family.

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