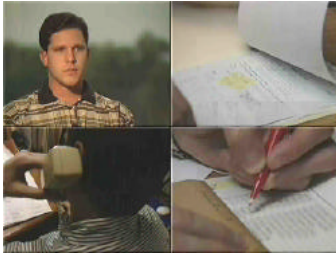




Sloan Career Cornerstone Center

Profiles of Chemical Engineers



Jason Roland

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

Education:

B.S. - Chemical Engineering, University of Minnesota

Job Description:

Process/Specialty Engineer

Advice to Students:

"Focus on studies, but don't focus on studies alone. In today's age, it's very important that you're a well-rounded person. Be involved in extracurricular activities; try to get involved in developing your speaking skills."

Video Transcript:

"In the engineering construction field, our projects tend to range anywhere from between a couple months to a couple years. In my experience, I'm not limited to just the technical aspects of my job. I'm involved in sales proposals, I'm involved in the estimating, the scheduling, the budgeting, everything you know through even client contacts. In the very beginning of a project, it's mostly process engineers that drive the work. We're kind of the instigators, so to say. And maybe for the first couple weeks you'll be working with a group of process engineers. And if it's a large project, you might have anywhere from 10 to 20 process engineers. And, once the ball gets rolling, you have many disciplines that join. And that's when the process engineer's work really becomes exciting. You've got mechanical engineers, electrical engineers, process controls people, you have piping designers, you have piping layout people. And they all have to come to you for information basically because you started it all. And there's also people like schedulers, estimators, project management people. A project could have 20- 25 people on an average project, anywhere up to over 100 on a large project."

Interview:

Roland: My name is Jason Roland and I'm 24 years old. I went to school at the University of Minnesota. I work for Fluor Daniel in Houston, Texas, and I'm a process engineer.

Q: How many hours a week are you working?

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Roland: On the project I'm working on now, we're probably working 55 hours a week, on average, over the term of the project.

Q: Is that pretty standard for you?

Roland: It really depends on the project but I'd say maybe 48 to 50 hours a week.

Q: What do you do on a day-to-day basis?

Roland: In the engineering construction field, our projects tend to range anywhere from a couple months to a couple years in length. So, a typical day really isn't a typical day. If you come with me one week, you might think it was pretty boring, but over the entire life of a project you get to do a lot of different things. I've been responsible for estimating on certain projects, estimating costs of either equipment or total jobs, and helping out with marketing presentations. Once we get a job, there are a lot of technical things that we do, such as helping the client with the design basis on a certain process. We also do a lot of consulting with the other disciplines, but pretty much process engineers will pick up and start the ball rolling on a project. We'll develop flow diagrams, material balances, and the typical process design-type activities. In my experience, I'm not limited to just the technical aspects of my job. I'm involved in sales proposals, estimating, scheduling, and budgeting -everything through client contacts. So, my technical job is there, but there's so much more than just the technical aspect that we do every single day.

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

Roland: In the very beginning of a project, it's mostly process engineers that drive the work. We're kind of the instigators. For the first couple weeks, you'll be working with a group of process engineers. If it's a large project, you might have anywhere from 10 to 20 process engineers. Once the ball gets rolling, you have many disciplines that join. And that's when the process engineer's work really becomes exciting. You've got mechanical engineers, electrical engineers, process controls people, piping designers, and piping layout people. They all have to come to you for information because you started it all. There are also technical people like schedulers, estimators, and project management people. An average project could have 20-25 people on it, anywhere up to over 100 on a large project.

Q: What attracted you to a consulting company?

Roland: I was attracted to working for a contractor, or a consulting firm, because of the different range of projects I would be exposed to. I really don't feel like I get into a rut here. I always know the next project's around the bend.

Q: Where do you see yourself five years down the line?

Roland: From what I've seen so far, I really enjoy interacting with the client and the different disciplines within my group. That's something that a project manager would be very good at doing and that's something that I see myself working into eventually by getting as much experience as possible and picking up a few things from the different disciplines. You can go anywhere as a process engineer in this company. I think that's one of the pluses of being a

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chemical engineer-you're an all-encompassing engineer and you have to know a little bit about every discipline in order to do your job well. I'd like to shoot for management some day, maybe managing construction. My other options right now are sales, marketing, scheduling, estimating, or mechanical design. There are a lot of options for a process engineer or chemical engineer in a company like this. You're not going to be just a process engineer for the rest of your life. Of course, if that's what you want to do, then you can.

Q: Do you think your college courses adequately prepared you for what you're doing right now?

Roland: I think my college experience prepared me adequately to start my job here, even though they couldn't possibly teach me everything I needed to know to hit the ground running as soon as I got here. I think that the curriculum gave me the basic skills I needed. Obviously, there is some type of learning curve that everybody has to go through when they come on the job right out of school. The first few months you might feel like you didn't learn anything in school. But after struggling here and there, and getting help from people, you realize that all the things you learned in school really are there somewhere, and it's just having the confidence, using what you've learned, and putting it towards the projects that you're working on.

Q: What advice would you offer to someone who was interested in becoming a chemical engineer?

Roland: Focus on studies, but don't focus on studies alone. In today's age, it's very important that you're a well-rounded person. Be involved in extracurricular activities; try to get involved in developing your speaking skills. In my job, they emphasize communication skills, especially presentation skills, since a process engineer may not be a process engineer forever. You really need to sell your service, since companies are down-sizing and you need to do a little bit of everything. Really work on your social skills.

Q: Did you do any co-op or internship programs when you were in school?

Roland: We didn't have a structured co-op system. I was fortunate enough to be employed by a local manufacturer of plastics. I came on to do a tedious task for them one day and was lucky enough to stay on and get promoted into the engineering department. I worked for two years in a research and development area. So I was pretty fortunate in getting that job because it really helped me land this job.

Q: How would you describe your college education?

Roland: It was very theoretical-even my co-op was in a research and development lab. As far as how things are designed practically versus theoretically, I can do all the equations to tell you it's going to work, but in reality you have to think about how this piece of equipment is set up, where it's located, and what feeds it. There's a lot of different engineering that goes into designing equipment and processes. It's not just the equations-it's how to use those equations for the right situations and to actually make the process work.

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Q: What skills have you developed in your professional life that you feel are most transferable into any other profession?

Roland: The skills that I'm developing now, that will help anyone in any field, are people skills- being able to read the people who you're dealing with and handling conflicts. Maybe you can sense something in them, and they can sense something in you, and you can build that relationship. It's a skill to feel people out-to know where they stand on certain issues, to know how far you can push one way or the other, and to be able to co-exist on a project. Since we have so many people working on a project at one time, you really need to get along with people.

Q: What are your long-term education goals?

Roland: My original goal was to get my master's in business. I haven't started that yet but I will soon, hopefully. Also, when I came down here, it seemed like everybody either had their licenses or was working towards one. So I recently took, and passed, the E.I.T. exam. Hopefully, within four years, I can take the test and be licensed as a professional engineer in Texas.

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