Profiles of Chemical Engineers

Gloria Chaw

Process Engineer
Chevron Research & Technology Company
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Education:
B.S. - Chemical Engineering, University of California, Berkeley

Job Description:
Process engineer at Chevron Research and Technology Company.

Advice to Students:
"I know a lot of chemical engineers who have gone into the business side, who've gone to computer areas. You're not limited."

Video Transcript 1:
"The team I'm on right now is lube process design. And so what we provide is mass and energy balances and some piping initial implementation diagrams and some reactor outlines, and general equipment specifications. I spend most of my time at the computer, I guess doing the grunt work. But as we are gaining more experience and then that will change and we'll have more customer interactions and more opportunities to perhaps sell the technology, give presentations."

Video Transcript 2:
"Right now we have a lot of work with overseas customers. It's a really international economy now and we're -- everywhere you're having more international business. And it helps to know the customers and the language of another culture."

Interview:

Chaw: My name is Gloria Chaw. I'm a process engineer at Chevron Research and Technology Company.

Q: What does Chevron do in this area?

Chaw: Chevron is an integrated oil company, meaning that we have both upstream and downstream operations. Upstream means we're looking and drilling for oil, and downstream

means we're processing the oil, making the oil into useful products, such as gasoline, aviation fuel, oils, and other useful products such as waxes and gases.

Q: Your first assignment with Chevron was as a computer programmer. What skills do you think they were looking for when they took a chemical engineer and made her programmer?

Chaw: The application that I was maintaining was for operations management. What it did was simulate a refinery. So you did have to have a process background to understand how to use the program and its basic objectives and how to schedule crude coming into the refinery and products leaving the refinery. They used this program to help schedule what kind of rates they were going to be running at their different units on different days. Having an engineering background helped me understand the whole application and its purpose. But to actually do the work on the program required a computer programmer's background. So, it was easier to train a chemical engineer to do programming than to have a programmer learning a little bit of process engineering.

Q: Do you spend a fair amount of time traveling?

Chaw: I had the opportunity to travel to China and I've also gone to Thailand. The trip to China was for a kick-off meeting for one of my designs. At a kick-off meeting, you just meet with your clients and you set your design basis. We determine what size paper we're going to be using for the design, what we are going to provide in the package, what the processing conditions are, and what the feed rate is. After that, you can't make any changes, unless you delay the project. So it's like a contract that we sign to set the design basis at the beginning of the design. My trip to Thailand was for a start-up. Chevron had licensed one of our hydrotreaters to Thailand and they had built it. We were sent there as consultants to give them guidance on how to start up the unit since this was the first time the unit was going to be started up. We were also there to make sure that they operated the unit properly so that if guarantees weren't met it wasn't because they had made some mistakes and not followed Chevron's guidelines.

Q: What's the most rewarding thing about being a chemical engineer?

Chaw: It's a dynamic career, it's not monotonous. You don't do the same thing twice. You get to work with a lot of dynamic people. Your fellow engineers, technicians, and your international clients. It's an exciting work place. You don't feel that it is boring because you're always learning something new.

Q: If you had to do it all over again, would you still become a chemical engineer?

Chaw: I would do it again. I like my job. It gives me the background to pursue other areas if I want to. I know a lot of chemical engineers who have gone into the business side, who've gone to computer areas. You're not limited.