



Sloan Career Cornerstone Center

Profiles of Chemical Engineers



Anthony Deanes

**Environmental Specialist
Brown & Root Environmental
Houston, TX**

Education:

A.S. - Chemical Technology, Mary Holmes College
B.S. - Chemical Engineering, Tuskegee University

Job Description:

Environmental Specialist

Advice to Students:

"One of the most important things that you can do is get a summer internship or a cooperative education assignment. Unless you're there, you can't really get a feel for what industry is like."

Interview:

Q: How did you first get interested in the thought of becoming a chemical engineer?

Deanes: Well, when I was at Mary Holmes College, I always thought about what am I going to do with this degree? And, having a chemical technology degree, that kind of limited me in a lot of things that I thought I might want to do. So in talking with professors, and getting exposure to different careers, it seemed like all the arrows pointed to chemical engineering.

Q: What do you think a person in school today needs to make the transition to being self-dependent in the working world?

Deanes: I think the biggest factor is being able to interact with people and communicate with people. When you get out of school and you get a degree, that says that you are capable of learning. But being able to work with project teams makes the biggest difference. It takes time to become competent in doing chemical engineering, or environmental engineering, or whatever. I think that people are the biggest factor, being able to work with people and communicate with people. You need to be able to communicate to your customer what you expect from them and what you need from them. But at the same time, you've got to be able to understand what your business unit expects from you, and what your manager expects from you.

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Q: Is the work you are doing now what you thought it would be like when you were in college?

Deanes: I don't think it's totally what I expected because, for one thing, I love process engineering, and thought that's what I would be doing. I did my senior project in the polymers areas and I thought probably I'd be doing something with polymers. But I never really thought about being in environmental engineering at all. So that's kind of a surprise. Since I've been in the environmental group, I've done probably more consulting than I have done engineering. And I think it's critically important for me to gain more engineering experience or equate more of my engineering experience with my consulting experience because my background is engineering. Also, I need to keep abreast of what's going on in engineering as well as getting experience in engineering.

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

Deanes: I'm an environmental specialist. Basically, we have four different area in our field services and consultant group. We have people who do air work, technical work, water and wastewater work, and regulatory type work. I've worked in all those areas except air and, hopefully, that will be something I will be working on in the future. I've done some wastewater design. I've designed oil/water separators for a pipeline and oil/water separation systems. And I've done a lot of underground tank work. I've done some risk assessment type work, and data validation work.

Q: What do you like most about your work?

Deanes: I like being able to travel and go to different sites, getting hands-on experience. When I was in process design, I didn't get a chance to get hands-on experience, but, being in field services and consulting, I do everything from budgeting to writing the work plans. I might do some of the site evaluations, some of the water and air sampling, and some of the soil sampling. I can do a very wide variety of things, from writing the closure plan for that site, to doing an ERISA assessment for that site.

Q: What advice would you offer to someone considering a career in chemical engineering?

Deanes: One of the most important things that you can do is get a summer internship or a cooperative education assignment. Unless you're there, you can't really get a feel for what industry is like. You need to have something that you can be happy with because, unless you can have some pride in what you're doing and are happy with what you're doing, you will not want to go there every day. Try to get some experience, if at all possible. It helps you get a feel for what chemical engineers do because, otherwise, you're just seeing it on paper. The second thing would be, whatever you think that you like to do, make sure you like it and make sure the money is not the biggest factor because, over the long haul, if you don't really enjoy what you're doing, the money won't really make a difference.

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Q: You mentioned that you previously worked as a process design engineer. What did that entail?

Deanes: Well basically I was doing the normal plant design-type things where I was designing pieces of equipment and doing energy balances and material balances. I prepared data sheets that I passed on to a mechanical engineer, and he passed along to an electrical engineer, and so forth. You take temperatures, pressures, and flow rates and try to control them, and make some type of product for the consumer. In the environmental group, I do environmental site assessments, wastewater design, data validation, risk assessment, and underground tank work, those types of things.

Q: How does teamwork play out in your current job?

Deanes: We have different teams, whether it be in environmental or in engineering. I guess the best example of a team is when I'm doing engineering because, if I'm doing process, I'm the front-end guy. So when I develop a materials balance and set the process specifications for equipment, you still have civil engineers who you have to give data sheets to, you have mechanical engineers who have data sheets, and, down the road, you have instrumentation and electrical people getting those data sheets. You have people with the pipeline group also contributing to the work. So you have to be able to give them the things that they need and you're often going to them to get what you need, as well as working with the client.

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