



# Sloan Career Cornerstone Center

## Profiles of Chemical Engineers



**Ken Harshbarger**

**Staff Engineer  
Lexmark International  
Lexington, KY**

### **Education:**

B.S. - Chemical Engineering, University of Illinois

### **Job Description:**

Staff engineer working in the manufacturing engineering group on ink jet print heads.

### **Advice to Students:**

"College students in chemical engineering should learn as much as they can while going to school, but still have fun because work is very different from college."

### **Video Transcript:**

"I work in the manufacturing engineering group on ink jet print heads. A typical day at Lexmark would go to first check on the manufacturing lines. Since I'm a manufacturing engineer, the status of the line, keeping the line running, is most important to the company. Then after I know the line is running with no problem, I'll check on some of our new equipment, some orders that I might have placed, some quotations that I have out with companies to try to get new equipment in, or for new products."

### **Interview:**

Harshbarger: My name is Ken Harshbarger. I'm a staff engineer with Lexmark. I work in the manufacturing engineering group on ink jet print heads.

### **Q: Why did you decide to become a chemical engineer?**

Harshbarger: Well, besides the money, I saw a presentation by AMOCO at my high school. They showed us all the different things that chemical engineers can do. It was neat to see this big plant with all these reactors and refineries. I thought that would be a great thing to get into.

### **Q: Did you do anything special in high school to prepare yourself for college?**

Harshbarger: My high school had the AP classes for preparing for college. Otherwise, the usual science classes that anyone in high school would take.

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**Q: Were you surprised when you got into college, was it tough?**

Harshbarger: College was pretty tough, especially the engineering classes. High school prepared me for it, but besides the formulas, you had to learn the theory. You have students who are all very good at what they're doing, too. It makes it very challenging. I think it was a good experience.

**Q: What is a typical day like for you?**

Harshbarger: First check on the manufacturing lines. Since I'm a manufacturing engineer, the status of the line-keeping the line running-is most important to the company. If we have down time, we're losing revenue and that is just not acceptable. That line has to be going-running nonstop-24 hours a day, seven days a week, so that we continuously get our product out there, a good quality product, and continue to receive that revenue. After I know the line is running with no problem, I'll check on some of our new equipment, some orders that I might have placed, or some quotations that I have out with companies to try to get new equipment in.

**Q: Do you work regular hours?**

Harshbarger: Very regular. I work from about eight till six, that's a usual day. Occasionally, being in manufacturing, we have to support the line over the weekend which includes some weekend and night work, but the company is usually good about giving you compensation time-off.

**Q: What other people do you work with?**

Harshbarger: I work in early manufacturing involvement, so I take the product from the chemists, the people in development, and take it over to manufacturing. So I work with the chemists in the lab, the research and development folks, and other people in production engineering so that they have a good product for production.

**Q: Do you work with teams?**

Harshbarger: I work with several teams. I work with the development teams, especially on the new products. I work with manufacturing teams for existing products. I work with some manufacturing engineers for new sites. Right now, we're starting sites in Scotland and Mexico, so I get to travel with those folks and meet with them, and work on their new equipment and production facilities.

**Q: Do you get to travel often?**

Harshbarger: I probably travel about three or four weeks out of the year. This year is an exception. I think I will be traveling about ten weeks out of the year to different countries. And that really makes it hard, especially when I take my part-time classes and I'm not able to be at every class. So I rely on other people at Lexmark to help me.

**Q: Did your education prepare you for your job?**

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Harshbarger: My education gave me a good background in problem solving and theory, but when you get to the job, you still have to concentrate on the area that you're going to be working on. The company helps you with that. So I don't think it was very difficult to learn my specialty. I think everyone has a specialty once they get to a job, because then they become the expert in that area. And even if you don't go into a job, even if you stay at a school and go on to teaching or into research in your area of specialization, you still keep on learning.

**Q: What is the best part of your job?**

Harshbarger: The best part of my job is watching a product go from development, taking it through development into manufacturing, and then seeing that on the shelf in the store. I had something to do with that. I put the ink in that cartridge and now there's somebody buying that cartridge. I think that's neat.

**Q: What about the worst part?**

Harshbarger: The worst aspect of my job is probably that it's so dirty. If you're a chemical engineer, you're going to probably work in someplace dirty. Here we have ink. I'm probably lucky if I don't have ink somewhere on my clothes right now. But that just comes with the job.

**Q: What advice would you offer to someone interested in chemical engineering?**

Harshbarger: College students in chemical engineering should learn as much as they can while going to school, but still have fun because work is very different from college. I don't think they need to worry about knowing everything. They're going to learn it in time and they'll have the help of the company to do that. They'll be working the rest of their lives. They should have fun while they're in college.

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