

A Journey Through Engineering: How my Co-Op and Internship

Experiences Shaped the Engineer I am Today

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INTRODUCTION

My name is Amber Schmidt and I worked at three different companies to obtain engineering experience through the Fenn Co-Op Program. The three companies are Xellia Pharmaceuticals, Goodyear Tire & Rubber, and Erie International Group. These positions led to refining the role I would like to have as an engineer post-graduation.

ABSTRACT

Throughout my college career, I have completed multiple co-op rotations and internships over three companies. First, starting in January of 2021, I began working in the Engineering department at Xellia Pharmaceuticals in Bedford, Ohio. This facility specializes in making a life-saving drug called Vancomycin, in addition to other important medicines, for people around the world. The main objectives I had for this position were to work with other process engineers on process optimization projects and engineering studies. During this experience, I was exposed to the intricacies of engineering and how to approach manufacturing problems. Second, I completed a co-op rotation at Goodyear Tire and Rubber in the summer of 2022, in Akron, Ohio, using data analysis techniques to investigate adherence to material specifications for the Quality department. Through this experience, I was able to broaden my knowledge of industry and gain valuable data analysis skills. Lastly, I began an internship at Erie International Group in September of 2022. I currently work with Engineering and Production, processing edible oils into various usable products including stearic acid, glycerin, animal feed bases, and other applications. I plan to remain at this company after graduating in May, primarily working on commissioning of a new system for edible oils at the plant. This experience has assisted me in honing my interests and developing my problem-solving skills. Overall, I have been able to expand upon my skills as an engineer and gain confidence in my abilities by pursuing these experiences.



Figure 1. First week at Xellia Pharmaceuticals.

XELLIA TASKS AND KEY SKILLS

- **Tasks:** Update gasket maps, analyze process and instrumentation diagrams, assist in media fills, plan and execute engineering studies, participate in A3 problem solving processes, and organizing plant shutdown projects.
- **Skills:** Introduction and understanding of process and instrumentation diagrams, introduction to A3 problem solving, collaboration techniques, project planning, communication with many departments.



Figure 2. Visiting a Goodyear Tire plant in Topeka, Kansas.

GOODYEAR TASKS AND KEY SKILLS

- **Tasks:** Planned and progressed an A3, created efficiency documents with a team, visited a manufacturing plant, and aided in the update of compound formulations.
- **Skills:** Leading an A3, improved collaboration, data analysis techniques, Microsoft Excel utilization.



Figure 3. A day of work at Erie International Group.

ERIE INTERNATIONAL TASKS AND KEY SKILLS

- **Tasks:** Trace process lines and update drawings, use Microsoft Excel to generate product yield summaries, assist on and execute commissioning activities for new deodorization system on site, and perform lab filtration studies.
- **Skills:** Programmable logic controller functions, line tracing, communication with multiple groups, commissioning activities, Microsoft Excel analysis.

CONCLUSIONS

- Throughout all my experiences, I honed my problem-solving skills, Excel abilities, and process optimization skills.
- Decided I want to continue working at Erie International Group after graduation.

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