



# Advancing Biofuels Research

## NCERC at SIUE

### **Job Description: NCERC Laboratory Internship Program**

The NCERC Laboratory Intern Program is a paid, part-time internship experience. The Internship will provide an accelerated opportunity for hands-on training in bioprocess at the pilot plant facility located at NCERC. Interns will learn how to operate the pilot plant equipment and manage the corn-to-ethanol production process. The purpose of the internship is to gain on-the-job training to develop the skills and experience needed to obtain an entry-level position in the biofuels industry or a related industry, such as biotechnology or chemical manufacturing. The program is designed for recent graduates, nontraditional candidates who are changing careers, or highly qualified students in their final semester of study. The intern benefits by:

- Gaining hands-on experience in process operations technology that will make students more highly competitive for positions in the field
- Creating a network of industry and academic contacts
- Access to opportunities for professional development via mentoring and specialized training opportunities
- Earning a certificate of completion from NCERC at SIUE

The NCERC Laboratory Intern comes to NCERC to gain knowledge and experience, which is acquired by performing the following duties:

- Participating in hands-on training opportunities, including soft skills, safety, and instrumentation
- Performing day-to-day operations in the laboratory while maintaining good laboratory practice standards (GLPS), including laboratory safety, quality assurance and quality control (QA/QC) procedures, instrument maintenance, and troubleshooting
- Learning and following standard operating procedures (e.g., for routine analytical methods) and research protocols for client projects
- Assisting in the interpretation and reporting data and problem solving
- Learning to perform multiple analytical methods with accuracy and precision
- Developing strong analytical skills
- Leading student teams during TAACCCT-funded training runs
- Working under the direction of NCERC Research Director, Scientific Analysts, Assistant Scientific Analysts and postdoctoral fellows on special projects, such as standards and lab maintenance

**To apply, complete the online application at**  
**[www.ethanolresearch.com/Internships.shtml](http://www.ethanolresearch.com/Internships.shtml)**



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**Hourly Rate:** \$12 (minimum of 10 hours per week, additional hours assigned based on volume of client/project work)

### **Additional Information:**

- Requires standard PPE (hard hat, safety glasses, safety shoes)
- Ability to work shift and variable schedule preferred

### **Learning Outcomes**

#### Laboratory:

Prepare reagents

Perform calibration

Analyze check standard

Record data

Enter data

Perform calculations

Report data

Collect samples

Store samples

Review MSDS

Preventative maintenance

Troubleshoot instrumentation

Perform data validation

Perform statistical analysis

Develop SOPs

Monitor chemical inventory

Monitor hardware inventory

Monitor consumable inventory

### **About the NCERC**

The National Corn-to-Ethanol Research Center (NCERC) is a unique facility, the only one of its kind in the world. The NCERC houses an analytical lab, fermentation lab, and fully functional pilot plant all under one roof. At the NCERC, corn ethanol, cellulosic ethanol, advanced biofuels, and specialty chemical research is conducted simultaneously. From biofuels to bioprocess and beyond, the Center's modern 24,000 square-foot pilot plant can be adapted to meet the needs of any project. The plant is equipped to handle a variety of feedstock's, with a modular, plug-and-play design and a wide range of options for optimal process flexibility.