

Faculty Member Contact Information

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Description of the URCA Assistant Position


This posting includes one funded position. In addition, the faculty member may be willing to mentor additional, unfunded students.


How many unfunded students is this professor taking in addition to his/her one funded student? 0

(Students, if the faculty member will have both funded and unfunded students, he or she is free to select which student receives the funding. Funding cannot be split up between multiple students; only one student will receive it.)

Which of the following apply to this position?

This position is **only** open to students who have declared a major in this discipline. **M**

This project deals with social justice issues. 

This project deals with sustainability (green) issues. 

This project deals with human health and wellness issues. 

How many hours per week will your student(s) be required to work in this position? 9

(Minimum is 6 hours per week; typical is 9.)

Will it be possible for your student(s) to earn course credit? Yes No

If yes, in which course? CE 491

If yes, for how many credit hours? 3

Location of research/creative activities: Engineering building

Brief description of the nature of the research/creative activity:

The student will support me to conduct a research on the effect of nitrogen (ammonia and nitrate) on the fermentation of corn mash. The student will review literature on corn fermentation process that is used in the ethanol industry, design an experiment where various concentrations of ammonia-N and nitrate-N will be present in the water for fermentation, quantify fermentation products (e.g. glucose), characterize the effect of nitrogen. The project will benefit research on reusing treated wastewater for ethanol production.

Brief description of student responsibilities:

The student responsibilities include

- conducting literature review,
- performing experiment design/set-up
- conducting lab experiments
- analyzing data
- writing a research report and presenting the results
- meeting weekly with the faculty mentor

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?

By successful completion of the research project, the student should be able to

- use library database to conduct effective literature review
- conduct lab and data analysis and discuss the effect of nitrogen on the fermentation of corn mash
- obtain improved skills in technical writing and communication

Requirements of Students

If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours), please indicate all required days and times:

N/A (the student is set his/her own hours)

If the location of the research/creative activities involves off campus work, must students provide their own transportation?

N/A (the research is to occur on Edwardsville campus)

Must students have taken any prerequisite classes? Please list classes and preferred grades:

The student must have taken CHEM 131 and CHEM135 or equivalent and have earned at least a B in both. CE380 with at least B and additional chemistry courses are desirable.

Other requirements or notes to applicants:

N/A