

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? 6

(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? N/A

If yes, for how many credit hours? N/A

Location of research/creative activities: Engineering Building

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

This research will be used to study the effects of various aggregate gradations on the permeability and strength of pervious concrete. We will also be investigating ways to measure the surface area of aggregate and the optimum cement paste content for pervious concrete.

Brief description of student responsibilities:

My assistant will be responsible for performing ASTM standard tests including sieving and grading aggregates; performing permeability tests; and making concrete. The student will also be assisting me in developing surface area measurement techniques.

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?

After participating in this research project, the student should have a better understanding of how to follow standard specification materials test procedures such as ASTM and the importance of being able to run repeatable tests. The student will also gain understanding of pervious concrete mix design, materials laboratory testing techniques, and how to measure permeability. Upon completing the project, the student should feel comfortable working in a concrete materials laboratory and conducting ASTM standard tests for concrete materials. This knowledge and experience will be beneficial to them when applying and working in construction related jobs and also if they intend to go to graduate school.

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:

Student should be able to lift at least 40 lbs. Student should be willing to get a bit dusty and make concrete. Student should be able to read and conduct ASTM concrete materials test procedures. Students must be able to learn how to and use mechanical equipment such as a concrete mixer and aggregate sieve machine. Students must be able to work independently with limited supervision.

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

N/A

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

The student should have completed CNST 210 or CE 330 with the grade of A or B.

Other requirements or notes to applicants:

N/A