





**Faculty Member Contact Information**

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<b>Contact Info</b>	
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**1 Funded, 2 Unfunded URCA Assistant**

	This position is <b>ONLY</b> open to students who have declared a major in this discipline.	<b>M</b>
	This project deals with social justice issues.	
	This project deals with sustainability (green) issues.	
	This project deals with human health and wellness issues.	
<b>X</b>	This project deals with community outreach.	
<b>X</b>	This mentor's project is interdisciplinary in nature.	<b>I</b>

**Are you willing to work with students from outside of your discipline? If yes, which other disciplines?**

- Yes, my project is truly interdisciplinary

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

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

- 8

**Will it be possible for your student(s) to earn course credit?**

- No

**Location of research/creative activities:**

- STEM Center (Science East, 1276 or 3354)

**Brief description of the nature of the research/creative activity?**

The STEM Center serves as a regional hub for STEM education, research, and community engagement. Our mission is to build a community of researchers and educators who together innovate ways to engage students and the public in STEM.

The student/students in this URCA project will work closely with Dr. Dexheimer on a STEM community engagement project of their choice and will receive training on science communication, community engagement, and education research methods. The student will help co-design a project and will assist with project implementation, data collection, and data analysis to examine the quality and outcomes of their project.

URCA students will work most of their hours on campus at the STEM Center offices (SE 1276/3354) with some flexibility for work from home during the data analysis phase of the project. Depending on the project of their choice, they may travel to local K-12 schools or community centers to implement their project and collect data (transportation will be provided).

Skills learned and refined during this URCA project will support students interested in careers in:

- STEM research and education;
- Community outreach and engagement;
- Science communication;
- Data-driven decision making;
- Diversity, equity, justice, and inclusion.

**Brief description of student responsibilities?**

Students will work closely with Dr. Dexheimer and receive training on science communication, STEM community engagement, and STEM Education Research, including quantitative methods, qualitative methods, and research ethics.

Students will be able to choose one of the projects listed here, or co-design their own project together with Dr. Dexheimer, based on their interest:

1) Science Communication: How are formal educators getting their science content?

- Students will use surveys to learn how STEM teachers in the region interact with different sources of knowledge (social media, blog posts, teacher-focused websites, etc.)

- Students will develop tools within the STEM Center to promote science content for local teachers and the general audience and will deploy these tools and collect feedback on the effectiveness of their science communication.

## 2) STEM Like Me: How to integrate diversity in STEM?

- Students will help co-write a community engagement program spotlighting scientists and STEM professionals of diverse identities and backgrounds.

- Students will pilot the community engagement program in a community setting (e.g. classroom, after school program, community center) and evaluate the program, making data-driven suggestions for improvement.

## 3) Accessibility in STEM: How can we design STEM curriculum for all learners?

- Students will learn about cutting-edge accessibility resources and best practices for accessible and inclusive STEM Education.

- The student will support Dr. Dexheimer and the STEM Center team in adapting and studying a STEM curriculum to make it more accessible and inclusive to all learners.

## 4) Cougar KickBots: Integrating STEM and sports for a whole child approach

- Students will learn about the whole child approach and support Dr. Dexheimer and the STEM Center staff on developing and studying a soccer and STEM program for middle school students, integrating physical and exercise sciences with socio-emotional skills and mentoring.

- Students will support the STEM Center in deploying the program at a local Middle School.

- Students will support data collection to examine the program and make data-driven suggestions for improvement.

**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?**

Depending on their project of choice, some of these goals and outcomes might vary. But, in general, at the end of their URCA experience, students are expected to:

- Learn and practice best practices on Science Communication, STEM Community Engagement and STEM Education Research;

- Develop their research skills on literature review, data collection, data analysis (quantitative and/or qualitative), and data-informed decision making;

- Complete a research project of their interest which will result in a final product (e.g. research paper or poster, data-informed curriculum, and/or series of materials focused on STEM content for the local public);

- Present their project at the Undergraduate Scholar Showcase in April of 2025

In addition, students will have the opportunity to present their project at a local scientific conference (e.g. Illinois State Science Academy, which will be at SIUE this year) or community event (e.g. Regional Office of Education meeting). Some projects might result in a final product that can be published on the STEM Center website and in a peer-reviewed journal.

### **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:**

- Students will work from campus with the option of working a few hours from home each week. Depending on the project of choice, I can accommodate a flexible schedule.

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

- If the project includes off-campus activities, transportation to and from campus will be provided.

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

- N/A

**Other requirements or notes to applicants:**

- N/A