

# Iowa Sciences Academy

## Director

Lori Adams (Biology)

**Faculty:** <https://isa.uiowa.edu/people>

**Website:** <https://isa.uiowa.edu/>

## Courses

### Iowa Sciences Academy Courses

#### **ISA:1040 Exploring Research 1 s.h.**

Professional and career development; tours of scientific research facilities and laboratories on campus; network with professors and graduate students; explore different types of research environments on campus; learn how to identify and contact potential research mentors.

#### **ISA:1041 Entering Research 1 s.h.**

Complement to independent scientific research experience; students meet weekly to share research experiences; students gain experience searching peer-reviewed literature databases; reading and summarizing peer-reviewed scientific papers.

#### **ISA:2040 Professionalism in the Scientific Community 1 s.h.**

Development of communication skills and appropriate professional conduct while maintaining ethical standards; further understanding of ethical issues in student's field, improve communication of student's research to the public, and understanding the significance of professional conduct, networking, and diversity within student's field.

#### **ISA:2041 Career Exploration and Specification 1 s.h.**

Students define career goals, increase knowledge about the process of obtaining a graduate or professional degree, and create personal plans for future academic and research endeavors.

#### **ISA:3040 Critical Analysis of Primary Literature 1 s.h.**

Development of critical thinking and research skills through analysis of primary scientific research literature to demystify and humanize research science; how to analyze components of a good empirical article; students present a research paper from literature in their field of interest as preparation to contribute to future empirical manuscripts. Requirements: minimum of 60 s.h. earned and junior or senior standing.

#### **ISA:3041 Pathways to Post-Undergraduate Education 1 s.h.**

Successful preparation for graduate school application process; students learn how to write their own curriculum vita, personal statements, research statements, and graduate school application action plan. Requirements: minimum of 60 s.h. earned and junior or senior standing.

#### **ISA:3992 Iowa Sciences Academy Undergraduate Research 0 s.h.**

Registration in a section taught by student's research mentor. Requirements: participation in Iowa Sciences Academy.

#### **ISA:4040 Teaching Your Undergraduate Research 1 s.h.**

Scientific teaching principles (e.g., backwards design, active learning, formative assessment); students develop a teaching unit based on some aspect of their research and teach it to the class in preparation for future interviews where the ability to explain the background and significance for their research is a highly valued skill. Requirements: minimum of 60 s.h. earned, junior or senior standing, and undergraduate research experience.

#### **ISA:4041 Senior Capstone Project 1 s.h.**

Structure for development, planning, and implementation of a culminating project for the Iowa Sciences Academy; students dedicate three to five hours per week to the project and are encouraged to connect their projects to community issues or problem; integration of external learning experiences and activities including interviews, scientific observations, or internships.