

# Undergraduate Research Experiences

## Director

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**Website:** <https://our.research.uiowa.edu/>

## Courses

### Undergraduate Research Experiences Courses

#### **URES:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities); research focus allows students to actively discover new information with guidance from instructor, pursue research in small groups, learn the "how to" of a field, and share their findings; no prior research knowledge or experience required. Requirements: first- or second-semester standing.

#### **URES:2200 Discover Research** 1 s.h.

Introduction to research at the University of Iowa; exploration of life as a researcher through a mixture of lecture, faculty and student guest speakers, and virtual lab tours; process of finding and contacting potential research mentors, interviewing for research positions, and making the most out of a research experience; for first-year undergraduates.

#### **URES:3001 Introduction to Translational Research** 0-3 s.h.

Array of scientific studies translated into clinical solutions, creative ideas balanced with practical strategies for implementation at bedside, and expansive number of career opportunities becoming available in translational sciences; opportunity to learn how translational research is conceived and developed; interpreting student research in a translational paradigm; survey of translational biomedicine research program covering the scope of interdisciplinary teams and breadth of T1 to T4 research applications. Requirements: enrollment in clinical and translational science certificate program, and engagement in mentored research activity. Recommendations: successful completion of EPID:4400 highly recommended.

#### **URES:3002 Practicum in Clinical and Translational Science** 0-3 s.h.

How research experience translates into clinical practice; translational impact of independent research; summary of research accomplishments; outline of a translational paper that is mutually acceptable to student, preceptor, and faculty; submission of paper and completion of poster presentation describing research project and translational application of research. Prerequisites: URES:3001. Requirements: enrollment in clinical and translational science certificate program.

#### **URES:3100 Undergraduate Research Ambassador** 0-1 s.h.

Promotion of undergraduate research from all disciplines within campus community; hosting various on-campus events, leading workshops, and presenting at student organization meetings and in class; leadership and public speaking; regular meetings with the Office of Undergraduate Research staff.

#### **URES:3991 Undergraduate Research and Creative Projects** 0 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

#### **URES:3992 Undergraduate Research and Creative Projects** 0 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

#### **URES:3993 Undergraduate Research and Creative Projects** 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

#### **URES:3994 Undergraduate Research and Creative Projects** 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

#### **URES:3995 Independent Creative Research by Undergraduates Summer Internship** 0 s.h.

Recognition of undergraduates involved in scholarly efforts of UI faculty and research staff; work on specific research and/or creative projects under selected mentors; funded annually by the Office of Undergraduate Research (OUR) through a competitive application process. Requirements: selection as ICRU fellow.

#### **URES:3996 Research Fellow** 0 s.h.

Involvement in scholarly efforts of UI faculty and research staff; students work on specific research and/or creative projects under selected mentors; funded by various strategic initiatives through competitive application processes. Requirements: selection by department or faculty mentor.

#### **URES:4000 Independent Creative Research by Undergraduates Fellowship** 0-1 s.h.

Recognition of undergraduates involved in scholarly efforts of UI faculty and research staff; work on specific research and/or creative projects under selected mentors; funded annually by the Office of Undergraduate Research (OUR) through a competitive application process. Requirements: selection as OUR fellow.

#### **URES:4100 Undergraduate Research Ambassador Leadership** 1 s.h.

Work with professional staff in the undergraduate research office to develop and provide outreach and events for undergraduate researchers on campus; hold recruitment events to engage K-12 students in discovery through research and creative efforts. Prerequisites: URES:3100. Requirements: be selected by the Office of the Undergraduate Research staff to serve in this role.

#### **URES:4110 Computational Bioengineering Summer Research Experience for Undergraduates** 0 s.h.

Immersive research experience focused on fundamental concepts of computational bioengineering and application of concepts to solve challenging biomedical problems; work on mentored research projects and showcase research at a university-wide presentation opportunity.

**URES:4120 Research Experience for Undergraduates: Computing for Health and Well-Being 0 s.h.**

Research experience in using computer science methods to study and solve current problems in health, well-being, and health care systems; work on mentored research projects and showcase research at a UI presentation opportunity.

**URES:4130 Research Experience for Undergraduates in Microbiology 0 s.h.****URES:4140 Research Experiences for Undergraduates in Evolutionary Biology 0 s.h.**

Intensive hands-on experience in a research lab; students create digital exhibits in collaboration with the UI Museum of Natural History and present their research at a university-wide poster presentation.

**URES:4150 Undergraduate Medical Scientist Training Program Research 0 s.h.****URES:4170 Research Experience for Undergraduates in Nanoscience and Nanotechnology 0 s.h.****URES:4180 Edge of Space Academy 0 s.h.**

Summer research experience centered around space-based instrumentation for observing Earth and space; students build small instrument payloads that are integrated onto drone and high-altitude aerial platforms to take measurements of the Earth below and the atmosphere and space environment above; hands-on experience for students who have an interest in Earth, atmospheric, solar, and space science. Requirements: application and acceptance to program.

**URES:4220 University of Iowa Premed Student Summer Research Internship 0 s.h.**

Immersive medical research experience with focus on gathering, analyzing, and interpreting health data; writing a manuscript for publication.

**URES:4240 Fostering Undergraduate Talent: Uniting Research and Education (FUTURE) in Biomedicine 0 s.h.**

Mentored research experience to create new discoveries in biomedicine; preparation to pursue careers in science and clinical practice; translation of current knowledge into new educational materials; discussions, conferences, workshops, training sessions, lectures; university-wide presentation opportunity and a FUTURE in biomedicine symposium.

**URES:4260 Cancer Summer Undergraduate Research 0 s.h.**

Holden Comprehensive Cancer Center faculty-mentored cancer biology research; cancer research education; lectures and seminars; oral poster presentation experience; career counseling; extended mentoring.

**URES:4270 Undergrad Research Experiences Radiation Biology 0 s.h.**

Faculty-mentored research focused on radiation therapy, redox biology, cancer biology, traditional and medical physics, engineering, medical imaging, and immunology.

**URES:4280 Data-Driven Weather Intelligence and Agricultural Community Resilience Summer Program 0 s.h.**

Advance knowledge in weather prediction, local weather intelligence, and resilience in agricultural communities; understand climate science and rural resilience; explore emerging technologies. Topics include weather intelligence, community resilience, sensor deployment, unmanned aerial vehicles (UAVs), and AI applications.

**URES:4290 Undergraduate Research Experience in Heavy Element Chemistry arr.**

Faculty-mentored intensive hands-on experience in a research lab focused on inorganic chemistry, radiochemistry, and quantum information science.