



INTEGRATED INCLUSIVE SCIENCE PROGRAM (IIS)

INCLUSIVESCIENCE.RICHMOND.EDU

What is the IIS Program?

Did you have a hard time choosing your favorite science or math course in high school? Do you enjoy learning the fundamentals of science in the context of important questions such as climate change or infectious diseases? Do you enjoy working with other highly motivated students?

The Integrated Inclusive Science program is designed to help students interested in science and mathematics to explore these interests in their first year of college in a highly structured, highly collaborative environment. Through interdisciplinary coursework, faculty mentored research experiences, and the development of a close-knit community of peers and faculty, students will be prepared to tackle upper-level science courses and to pursue graduate study, medical school, or jobs in science, technology, engineering or math (STEM) fields.

The Integrated Inclusive Science program includes a pre-first year summer experience via the University of Richmond Integrated Science Experience (URISE) program as well as the first year Science Math and Research Training (SMART) courses.

URISE

URISE is a pre-first year summer program in which students from all backgrounds work together to tackle an important research project while getting a head start on college-level skills such as quantitative analysis, laboratory techniques, time management and other success-oriented strategies. The URISE program also allows students to join a cohort of like-minded science-interested students and to form relationships with science faculty before their first day of classes.

To be eligible a student must be passionate about science and interested in a research-based, interdisciplinary approach to their introductory science

courses. Through a competitive process, up to 24 students will be selected for URISE, based on their ability to demonstrate a strong interest in science and math and their potential for success in the URISE program. This program is ideal for students considering science or math majors. The cost of on-campus housing, meals, and campus activities during the program is covered, and participants receive a small monetary stipend.

URISE program participants will be required to enroll in the SMART course during their first year. SMART is also an Endeavor course, so it is a part of the Living and Learning program at UR.

Upon completion of SMART, students will have earned four units of credit towards graduation, satisfied two general education field of study requirements, and will be ready to take the IIS research training seminar or to pursue the Integrated Science Minor.

SMART Course

The year-long Science Math and Research Training (SMART) course is for first-year students interested in biology, chemistry, and math. The four unit course of study covers the introductory concepts of biology, chemistry and calculus focused through the lens of HIV and antibiotic resistance. The course is taught by a team of faculty from each discipline and concludes with a paid summer research experience mentored by a UR faculty member.

The SMART program is comprised of an integrated biology-chemistry course taught alongside a loosely coupled calculus I and calculus II course. Upon completion of the program, students will receive credit for Bio 192, Chem 192, Math 211 and Math 212, and will be prepared for additional course work in biology, chemistry or math.

Research

Students who participate in URISE are introduced to the skills they will need to conduct research.

Students who complete SMART receive support to work in a mentored research program during the summer following the course. Students are encouraged to join a faculty research program early in their studies at Richmond and to continue the research throughout their four years. Support to continue research after the first summer or during the academic year is available through faculty research grants, the UR Summer Fellowships program, department awards, and institutional grants. Students typically present the results of their investigations at the fall Science Symposium and the spring Arts & Sciences Student Symposium. Students also present at regional and national meetings and they often publish their findings with faculty.

Why participate in the program?

The biggest questions in science are being answered using tools and techniques from multiple fields. While participating in the IIS program, students receive a new kind of scientific training. Teaching is integrated so that links between concepts are readily apparent, and students are stimulated to think beyond traditional science methodology. The faculty teaching in the program feel passionately that producing scientists with this kind of training is necessary to making progress in solving major problems facing science and medicine.

IIS also builds a supportive community of peers and faculty that students can rely on throughout their college career and beyond.

Who should participate in the program?

The ideal student for this program enjoys all areas of science and mathematics; thrives working as part of a team of diverse students; is interested in learning research techniques and skills; has a positive attitude and a strong work ethic; and is intellectually curious

Preparation for Graduate School and Medical School

The broad-based exposure to ideas and techniques from a variety of areas offered through IIS is excellent preparation for graduate and pre-professional work in any of the sciences.

The SMART course meets the following pre-med requirements: one semester of biology; one semester of inorganic chemistry; and two semesters of calculus. Calculus is also a pre-requisite for courses in physics that are also required for success on the MCATs and by some medical schools.

Facilities

The Gottwald Center for the Sciences is the home of the biology, chemistry, and physics departments. With 22 teaching laboratories and 50 student-faculty research laboratories, the space includes lab facilities for each discipline, as well as a modern classroom and laboratory specifically designed to support the interactive pedagogy employed the IIS program.

How do students apply to the IIS program?

Students can apply to the individual components of the IIS program, and all applications are available on the website.

URISE applications are due in early May, and those students accepted to the URISE program will have a place in SMART without an additional application.

Students who do not participate in URISE can apply directly to SMART. Applications are due in early July, and students are notified of their acceptance before registration for fall courses.

Faculty

URISE

Dr. Shannon Jones

Director of biological instruction
sjones22@richmond.edu

SMART

Dr. Emma Goldman

Associate Professor of Chemistry
egoldman@richmond.edu

Dr. Shannon Jones

Director of biological instruction
sjones22@richmond.edu

Dr. Kathy Hoke

Professor of mathematics
khoke@richmond.edu

Dr. Dan Pierce

Assistant Professor of Biology
bpierce@richmond.edu

Dr. Marcella Torres

Director of mathematical studies
mtorres@richmond.edu

Dr. Michael Norris

Assistant Professor of Chemistry
mnorris@richmond.edu



OFFICE OF ADMISSION

(804) 289-8640

richmond.edu

Dr. Kristine Nolin, Integrated Inclusive Science Program Coordinator
(804) 289-8228 • knolin@richmond.edu

inclusivescience.richmond.edu