# Integrated Science (INTEGSCI)

**INTEGSCI 100 — Exploring Biology**  
2 credits.  
A first-year course focused on the core concepts in biology (evolution; transformation of energy and matter; information exchange and storage; structure and function; systems biology), professions in biology, and the foundational skills and knowledge needed for successful academic and post-graduate careers in biology. Enroll Info: None  
**Requisites:** First year students only  
**Course Designation:** Breadth - Biological Sci. Counts toward the Natural Sci req  
**Level - Elementary**  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
**Repeatable for Credit:** No  
**Last Taught:** Fall 2018

**INTEGSCI 110 — Biohouse Seminar: Biology for the 21st Century**  
1 credit.  
Focused on developing skills in cooperative learning with peers and visiting scientists; integrating information across disciplines; communicating science; careers in biology; and, illustrating how biology can help solve society’s pressing issues. Enroll Info: None  
**Requisites:** Member of BioHouse Residential Learning Community  
**Repeatable for Credit:** No  
**Last Taught:** Fall 2018

**INTEGSCI 140 — Exploring Service in Science**  
1 credit.  
Introduces first-year science students to the world of public service from the perspective of both the university and its community partners, using classroom activities and direct experiences. Service opportunities include science outreach, sustainability, and public health. Upon completion of the course, students will be prepared to access the network of service providers in the region to pursue more in-depth volunteer or community-based learning opportunities. Involves approximately 1 hour per week of public service. Enroll Info: None  
**Requisites:** None  
**Repeatable for Credit:** No  
**Last Taught:** Fall 2018

**INTEGSCI 150 — Exploring Research in Science**  
1 credit.  
Exploring Research in Science is an opportunity for first-year, second-year and transfer students to gain an understanding of the science research landscape at UW-Madison, to explore ways that scientists from different disciplines approach research, and to build skills in thinking like a scientist. The course will provide guidance on finding a research mentor and will expose students to science careers. Enroll Info: None  
**Requisites:** None  
**Course Designation:** Level - Elementary  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
**Repeatable for Credit:** No  
**Last Taught:** Spring 2019

**INTEGSCI 230 — Exploring Discipline-Based Leadership & Mentoring**  
2 credits.  
Students will build practical peer leadership and mentoring skills, while evaluating and reflecting on personal experiences among a group of peers who challenge and learn from each other as they explore leadership. Class activities are designed to develop critical thinking around student development issues and provide strategies for integrating discussions of diversity, ethics, social justice, community, and civic responsibility into leadership experiences. Enroll Info: None  
**Requisites:** None  
**Repeatable for Credit:** No  
**Last Taught:** Spring 2019

**INTEGSCI 240 — Service with Youth in STEM**  
2 credits.  
Teaches students about community engagement experiences, focusing on building community partnerships, understanding organizational missions and community needs, assessment of informal science outreach experiences, and issues related to scientific literacy and access to science. Enroll Info: None  
**Requisites:** None  
**Course Designation:** Level - Elementary  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
**Repeatable for Credit:** No  
**Last Taught:** Spring 2019

**INTEGSCI 260 — Entering Research Part 1**  
1 credit.  
Seminar course for sophomore or transfer students to begin independent research in science, technology, engineering or mathematics. Taken concurrently with 1-3 research credits with faculty member. Supports independent research experience. Enroll Info: None  
**Requisites:** None  
**Repeatable for Credit:** No  
**Last Taught:** Summer 2018

**INTEGSCI 261 — Entering Research Part 2**  
1 credit.  
Seminar course for sophomore or transfer students continuing independent research in science, technology, engineering or mathematics. Taken concurrently with 1-3 research credits with faculty member. Supports independent research experience. Enroll Info: None  
**Requisites:** None  
**Repeatable for Credit:** No  
**Last Taught:** Summer 2018

**INTEGSCI 299 — Independent Study**  
1-3 credits.  
Provides academic credit for research, library, and/or laboratory work under direct guidance of a faculty or instructional academic staff member. Students are responsible for arranging the work and credits with the supervising instructor. Enroll Info: None  
**Requisites:** Consent of instructor  
**Repeatable for Credit:** Yes, unlimited number of completions  
**Last Taught:** Fall 2018
INTEGSCI 320 — INTERNSHIP
1-3 credits.

Provides academic credit for skill development in authentic contexts in science education including service, peer mentoring, and leadership. See class notes for additional information. Enroll Info: None
Requisites: Consent of instructor
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

INTEGSCI 340 — SERVICE WITH YOUTH IN STEM II
2 credits.

Applies communication skills and social awareness issues in ways that enable students to work with increasing levels of independence in building and maintaining community relationships compared to INTEGSCI 240. Includes a lab section applied to lecture experiences to prepare for work with children in elementary after-school science clubs and to focus on different styles of communication. The multi-disciplinary focus of the after-school lessons develops connections between students’ field of study and others within STEM. In the service learning component, students apply academic knowledge through science education and outreach experiences in a community-focused and culturally sensitive way. Students work with underrepresented students in the Madison metropolitan area in elementary after-school science clubs, and are expected to critically reflect on the ties between their academic and community partnerships, and differences between campus and community culture. Enroll Info: None
Requisites: INTEGSCI 240
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

INTEGSCI 341 — SERVICE WITH YOUTH IN STEM PRACTICUM
1 credit.

Apply communication, cultural competency, and leadership skills to work with community partners in a service learning practicum. Work with underrepresented students in the Madison metropolitan area in elementary after-school science clubs, and critically reflect on the ties between their academic and community partnerships, and differences between campus and community culture. Work with different community partners than they did in previous Service with Youth in STEM courses. This practicum combines the service experience with an in-class component to prepare to provide opportunities to critically reflect upon the ties between academic preparation and community partnerships, and on their experiences in varied community settings. Enroll Info: None
Requisites: INTEGSCI 340
Course Designation: Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

INTEGSCI 375 — SPECIAL TOPICS IN INTEGRATED SCIENCE
1-3 credits.

This course examines various special topics in science or science education. See class notes for additional information. Enroll Info: Requisites vary by topic
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

INTEGSCI 605 — SCIENTIFIC TEACHING FOR TAS
1 credit.

The goal of this course is to arm Teaching Assistants with survival skills in scientific teaching through theory, practice, and learning community. We will work together to learn the core themes of scientific teaching (active learning, assessment, and diversity) and apply them, in real time, to the courses in which the TAs are concurrently teaching. This course is open to graduate students only. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

INTEGSCI 650 — COLLEGE SCIENCE TEACHING
1 credit.

Covers the fundamentals of learning theory and practical strategies for teaching science courses, while also developing community around this shared experience. The cohort will work together to learn the core themes of scientific teaching (active learning, assessment, and diversity) in theory so that they can make informed decisions about their teaching in the future. This course is required for Teaching Fellows Program participants. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2019

INTEGSCI 660 — RESEARCH MENTOR TRAINING PRACTICUM
1 credit.

Practicum course for graduate, post-doctoral or senior undergraduate students to be taken concurrently while mentoring an undergraduate engaged in an independent research experience. Enroll Info: None
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2018

INTEGSCI 675 — SPECIAL TOPICS
1-3 credits.

This course examines various special topics in science or science education. See Class Notes for additional information. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2019

INTEGSCI 699 — INDEPENDENT STUDY
1-3 credits.

Provides academic credit for advanced research, library, and/or laboratory work under direct guidance of a faculty member. Students are responsible for arranging the work and credits with the supervising faculty member. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2018
INTEGSCI 750 — INSTRUCTIONAL MATERIALS DESIGN FOR COLLEGE SCIENCE TEACHING
1 credit.

Designed to provide a practical application of pedagogical knowledge through the development of instructional materials for use in a university science education context. The process will be based around cohorts of participants working together to identify learning objectives, and create evidence-based assessments and learning experiences to target those objectives. This course is required for Scientific Teaching Fellows Program participants. Enroll Info: None
Requisites: INTEGSCI 650
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2018

INTEGSCI 850 — MENTORED PRACTICUM IN COLLEGE SCIENCE TEACHING
1 credit.

Continues the development of graduate student’s skills in teaching and learning college science courses by providing a mentored, independent teaching experience. Participants will have the opportunity to see how theories of learning and teaching play out in real instructional settings by implementing instructional activities and then evaluating the outcomes of those activities on the basis of student artifacts. A particular emphasis will be placed on participants creating an inclusive learning environment for teaching diverse student populations. The course also provides participants with frameworks for teaching and managing their own courses, should they pursue academic positions after graduate school. This course is required for Scientific Teaching Fellows Program participants. Enroll Info: None
Requisites: INTEGSCI 750
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2018