

# SCIENCE EDUCATION (SCIED-GE)

## SCIED-GE 2009 Science Experiences in The Elementary School I (2 Credits)

*Typically offered Fall and Spring*

Science experiences for elementary school are developed and strategies for implementation and evaluation are devised. Issues such as basic attitudes toward science, equity in the science classroom, and learning styles will be explored. Students will develop a catalogue of resources, both in print and on-line, for expanding understanding of science content, developing science skills, integrating science into the rest of the curriculum, exploring science activities appropriate for children and assessing science teaching and learning.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2010 Science Experiences in The Elementary School II (2 Credits)

*Typically offered Fall and Spring*

This course examines several models for teaching preschool and elementary science. Science experiences for elementary students are developed, and strategies for implementation and evaluation are devised.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2021 SCI in Hist Perspective (3 Credits)

*Typically offered not typically offered*

What is science, whose science, whose knowledge and science for whom? These questions are a focus as we explore forms of systematic knowledge and understandings about the world including the historic emergence of Modern Western Science (MWS) and Indigenous Knowledge Systems (IKS). How science is haunted by racism, sexism and other efforts to marginalize specific agentic elements is explored and you will be invited to engage in a knowledge production study of your choosing. This course will make you a better educator and curriculum developer.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2039 Methods I: Teaching of SCI in Middle & Hs (3 Credits)

*Typically offered Fall*

This first of two field-based courses explores theoretical and practical frameworks for designing and implementing grades 5-12 science curricula topics including learning theories, safety, planning and curriculum development, classroom management, integration of science with other disciplines, reading and science, traditional and alternative assessment, and multicultural science teaching. The use of technology as an instructional tool to support learning and communication are applied to teaching and learning situations as an integral aspect of the course.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2040 Methods II: Teaching SCI in Middle & High Schools (3 Credits)

*Typically offered Spring*

This course continues to build your learning as you develop a further repertoire of practices and understandings to support your growth as an innovative professional educator who uses inclusive and culturally relevant design through the use of counter narratives to develop science curricula that are technologically rich, engaging and practically and intellectually challenging for middle and high school students in grades 5-12.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2050 Using Non Formal Resources to Teach Science and Sustainability (3 Credits)

*Typically offered Fall*

Students learn to use the city as a classroom to learn about science and sustainability in the urban environment. Students explore place-based environmental education by visiting non-formal settings such as parks, botanic gardens, museums, field stations, and public and private organizations and consider their roles as teachers and learners to link activities with inquiry, reflection and practice. Students learn and understand how to develop linkages between formal and non-formal learning by designing educational activities for learners of all ages.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2092 Designing Curricula for Teaching Science (3 Credits)

*Typically offered not typically offered*

Through this course, students engage in a critical examination of science curricula at middle and high school through an exploration of theoretical perspectives informing curriculum design, how socio-cultural factors frame curriculum development and implementation, the role of standards, and developing curricula for equity and inclusion. These elements constitute the intended curriculum. Students also explore the enacted curriculum and what gets implemented, and the learned curriculum, which we can only identify through assessment. Students design, implement and evaluate a curriculum to their specifications and justifications.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

## SCIED-GE 2300 Independent Study (6 Credits)

*Typically offered Fall, Spring, and Summer terms*

It should be noted that independent study requires a minimum of 45 hours of work per point. Independent study cannot be applied to the established professional education sequence in teaching curricula. Each departmental program has established its own maximum credit allowance for independent study. This information may be obtained from a student's department. Prior to registering for independent study, each student should obtain an Independent Study Approval Form from the adviser.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** Yes

**SCIED-GE 2911 Student Teaching Science Education: Middle School (3 Credits)**

*Typically offered not typically offered*

One semester supervised student teaching in a science education classroom in middle school a minimum of 180 hours within 20 days. Student teaching experiences will be used to support theoretical and practical applications of the planning and implementation of the curriculum. Participation is required in a weekly student teaching seminar which offers a practical examination of teaching problems and practices as they relate to actual classroom teaching.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No

**SCIED-GE 2922 Student Teaching Science Education: High School (2-3 Credits)**

*Typically offered Fall and Spring*

One semester supervised student teaching in a science education classroom in high school a minimum of 180 hours within 20 days. Student teaching experiences will be used to support theoretical and practical applications of the planning and implementation of the curriculum. Participation is required in a weekly student teaching seminar which offers a practical examination of teaching problems and practices as they relate to actual classroom teaching.

**Grading:** Grad Steinhardt Graded

**Repeatable for additional credit:** No