



For students with degrees in STEM fields

Graduate Certificate

General Science (5-8) Initial Licensure Teaching Certificate • CIP code 131316

For licensure: 20-23* credits, 3 terms full-time • Program approved by the Mass. Dept. of Elementary & Secondary Education (ESE)

Program Description — This program is designed for individuals who hold an undergraduate degree in science and are interested in teaching general science in the Massachusetts public school system at the middle school (5-8) grade level. This is a license-only pathway and does NOT result in a graduate degree; credits earned can be used toward the M.Ed. in General Science. The program will focus on the necessary pedagogical skills needed to teach in Massachusetts Public/Private Schools.

Learning Outcomes — Graduates teach science content through engaging learners in the elementary and middle grade level in the scientific practices and the engineering design process They design and conduct scientific inquiries to test scientific hypotheses, using appropriate tools and techniques to gather, analyze, and interpret data; develop descriptions, explanations, predictions, and models using evidence, communicate scientific procedures and explanations; and know how science, technology, and math inform each other and serve as mechanisms for inquiry into the nature of the universe.. They use “best practices” in teaching inquiry-based science and develop a balanced approach to hands-on science instruction using appropriate methodology and appropriate safety procedures as described in state standards. They set high expectations and create a safe and collaborative learning environment to engage all students in their learning. They implement well-structured lessons with measurable assessments of learning and engage in ongoing reflection on practice.

Careers — Middle school general science teacher/earth, life, physical and engineering sciences, grades 5-8; science museum educator, nature center specialist/guide, aquarium and zoo educator.

Admission requirements
• School of Education requirements for certificate programs.
• Bachelor’s or master’s degree in a STEM field.
• Pass Communication & Literacy (MTEL).
Transcript analysis: Subject matter competency for General Science 5-8 will be evaluated through transcript analysis by the program chair, following the Massachusetts standards for the license (see www.doe.mass.edu). Only coursework completed within the last seven years, with grades of B or better will be considered.
*Program credits: 20 credits total if SEI is completed before enrollment, 23 credits if SEI is completed at Cambridge College. Additional credits may be required for competencies not satisfied before enrollment; credits may be reduced if any science methods have already been covered acceptably.
Program subject to change.
Program chair: John Papadonis, MS
• john.papadonis@cambridgecollege.edu

Courses required may vary based on transcript analysis.

Science Methods..... 16 credits

Methods & Materials for Teaching:

- SCI686 Physical Science. Fall
SCI690 Teaching Engineering & Technology (2 credits). Fall
SCI692 Logistics of Teaching Science (2 credits). Spring
SCI682 Life Science Spring
SCI684 Earth Science Spring
SCI688 Middle School Chemistry Summer

Practicum Prerequisites..... 1-4 credits

- Pass all MTEs required by Massachusetts for this license: Communication & Literacy and General Science 5-8 tests.
• SEI605 Sheltered English Immersion or ESE-endorsed course or SEI MTEL.
• Pass all required courses.
• Pre-Practicum — Successfully complete program-specific hours in diverse settings (0 credit)
• EDU704 Practicum Readiness (1 credit)
• Submit Practicum Application and Placement Approval Forms.

Practicum & Seminar..... 4 credits

SCI794B Practicum 5-8 – 300 hrs in a middle school (5-8) science classroom (2 credits)

Guided and evaluated by a licensed/certified general science teacher in the classroom and a Cambridge College general science supervisor. Practicum locations are subject to ESE regulations and must be discussed with the program chair and approved by the pre-practicum/practicum coordinator.

SCI791 Practicum Seminar (2 credits)

Electronic exit portfolio (Taskstream) required for credit.

(All courses @ 3 credits except as noted.)