



The Teacher Education Program at Cambridge College is awarded TEAC accreditation by the Inquiry Brief Commission of the Council for the Accreditation of Educator Preparation (CAEP) for a period of five years, from May 2014-May 2019. The accreditation does not include individual education courses that the EPP offers to P-12 educators for professional development, re-licensure, or other purposes.

Master of Education

General Science (1-6 or 5-8) • CIP code 131316

For licensure: 35-38\* credits, 5-6 terms full-time • Non-licensure : 32 credits, 3 terms full-time
• Program approved by the Mass. Dept. of Elementary & Secondary Education (ESE)

Program Description — The General Science Education program provides essential science content, integrated with best practices in hands-on, inquiry-based science education. The curriculum is firmly rooted in the Massachusetts science education model with a balance of earth, life, physical and engineering sciences. Students experience a blend of seated and online content science courses. Program completers are career-ready, technologically savvy, exhibit intercultural competence and are equipped to advance social justice.

Learning Outcomes — Graduates demonstrate the disposition, knowledge and skills expected of professional educators articulated by state and national accreditation bodies. 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 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. They personalize their learning through an Independent Learning Project that enhances their preparedness as a professional educator.

Careers — Elementary science specialist, grades preK-5; 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.

Non-licensure option: All program components are required (including pre-practicum) except for SEI, Practicum, Practicum Seminar, and MTEL exams. Two additional credits are required as electives specific to science content. These courses must be selected in consultation with the program chair. MAT623 may be replaced with electives specific to the program.
\*Program credits: 35 credits total if SEI is completed before enrollment, 38 credits if SEI is completed at Cambridge College.
Program subject to change.
Program chair: John Papadonis, MS
• john.papadonis@cambridgecollege.edu

Professional Seminar & Project .....7 credits

- ESE691-692 Professional Seminar (2 terms @ 2 credits)
ESE800 Independent Learning Project

Science Methods.....15 credits... 12 credits

Licensure courses @ 3 credits grades 1-6 grades 5-8

Licensure courses @ 3 credits grades 1-6 grades 5-8

- MAT623 Teaching Numerical & Geometric Structures. .... Fall, Spring
SCI680 Attaining Science Literacy ..... Fall

option for 1-6: SCI680 or ELE653 Teaching Sci & Technol in Early Childhood & Elem Curric

Methods & Materials for Teaching:

- SCI682\* Life Science ..... Spring
SCI684\* Earth Science ..... Spring
SCI686\* Physical Science ..... Fall

Note: Asterisk (\*) indicates pre-practicum experience required.

Science Content..... select 8 credits.....11 credits

grades 1-6 grades 5-8

Online courses @ 1 credit

Students should select those courses that reflect their weakest area of preparation and support their abilities to teach the science content required for their area of licensure

- SCI609 Transfer of Energy. .... Fall
SCI611 Ocean Science. .... Fall
SCI619 Teaching Project-Based Science. .... Fall
SCI627 Teaching Chemistry Through Inquiry ..... Fall
SCI603 Electricity & Magnetism. .... Spring
SCI607 Structure of the Earth ..... Spring
SCI613 Earth in the Solar System ..... Spring
SCI629 Practical Meteorology ..... Spring
SCI591 Intro to Online Science Learning ..... Summer
SCI601 Aquatic Ecology ..... Summer
SCI605 Water Quality ..... Summer
SCI615 Forces & Motion ..... Summer
SCI617 Earth's History ..... Summer
SCI600 Cell Biology ..... Summer

In-class course option @ 3 credits

- SCI688 Methods & Materials for Teaching Middle School Chemistry ..... Summer

All courses offered at least once/year.



(All courses @ 3 credits except as noted.)



MEd

Continued

## General Science (1-6 or 5-8)

### Practicum Prerequisites

- Pass all teacher tests required by the state for this license.  
Massachusetts: Communication & Literacy test and:  
1-6: Successful completion of coursework  
5-8: General Science 5-8 MTEL exam
- SEI605 Sheltered English Immersion or ESE-endorsed course or SEI MTEL.
- Pre-Practicum — successful completion of 75 hours in diverse settings (0 credit).
- Pass all required courses.
- Submit Practicum Application and Practicum Placement Approval Form.

### Practicum & Seminar (licensure students only). . . .5 credits

**SCI790 Practicum** – 300 hrs in an elementary (1-6) or middle school (5-8) science classroom (3 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.

SCI790**A** Practicum 1-6 • SCI790**B** Practicum 5-8

**SCI791 Practicum Seminar** (2 credits)

Electronic exit portfolio (Taskstream) required for credit.

(All courses @ 3 credits except as noted.)