



Master of Education

General Science (1-6 or 5-8)

For licensure: 35\* 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)

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.

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.

Learning Outcomes — Students will understand the principles guiding modern scientific thought, and master science content knowledge. They will design and conduct scientific inquiries to test scientific hypotheses, using appropriate tools and techniques to gather, analyze, and interpret data. They will develop descriptions, explanations, predictions, and models using evidence, communicate scientific procedures and explanations. Students will know how science, technology, and math inform each other and serve as mechanisms for inquiry into the nature of the universe. Students will understand historical and philosophical theories in science, and identify common misconceptions. They will identify socially important issues including the impact of technology on our environment.

Teachers will use professional “best practices” in teaching inquiry-based science. They will develop a balanced approach to hands-on science instruction using appropriate methodology. They will learn to engage students of varied learning styles and abilities.

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.

Professional Seminar & Project .....7 credits

ESE691-692 Professional Seminar (2 terms @ 2 credits)

ESE800 Independent Learning Project (take with Seminar II)

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

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

MAT623 Teaching Numerical & Geometric Structures.....•

SCI680 Attaining Science Literacy.....•

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

Methods & Materials for Teaching:

SCI682 Life Science .....•

SCI684 Earth Science .....•

SCI686 Physical Science .....•

Science Content..... choose 8 credits....11 credits

grades 1-6 grades 5-8

Confer with advisor before choosing courses.

Be sure to address your weakest areas of science content.

Online courses @ 1 credit

Table with 2 columns of course numbers and titles: SCI591 Intro to Online Science Learning, SCI601 Aquatic Ecology, SCI603 Electricity & Magnetism, SCI605 Water Quality, SCI607 Structure of the Earth, SCI611 Ocean Science, SCI609 Transfer of Energy, SCI615 Forces & Motion, SCI613 Earth in the Solar System, SCI617 Earth's History, SCI629 Practical Meteorology, SCI600 Cell Biology, SCI619 Teaching Project-Based Science, SCI627 Teaching Chemistry Through Inquiry

In-class course option @ 3 credits

SCI688 Methods & Materials for Teaching Middle School Chemistry

All courses offered at least once/year.

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 (3 additional credits) or ESE-endorsed course or SEI MTEL.
• Pre-Practicum — 75 hours in diverse settings (0 credit).
• Pass all required courses.

Practicum (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 approved by the program chair. Students are responsible for discussing options for practicum with the program chair.

SCI790A Practicum 1-6 • SCI790B Practicum 5-8

SCI791 Practicum Seminar (2 credits)

Electronic exit portfolio (Taskstream) required for credit.

Admission requirements: Bachelor's degree and other general requirements.

Required to enter program for licensure:

- Pass Massachusetts Communication & Literacy Test (MTEL).
• 3.0 GPA at entry; must be maintained throughout program.

\*Program credits: Total does not include the SEI requirement, which has multiple pathways for completion.

Program subject to change.

Non-licensure option: All program components are required except the Practicum, Practicum Seminar and teacher tests. Non-licensure students must complete all pre-practicum hours embedded in the courses. Two more credits of graduate level science content electives are chosen in consultation with program chair. MAT623 may be replaced with science content electives.

Program chair: John Papadonis, MS john.papadonis@cambridgecollege.edu

