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 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
License 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

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.

Admissions: 1.800.829.4723  ●  www.cambridgecollege.edu

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

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
SCI591  Intro to Online Science Learning
SCI603  Electricity & Magnetism
SCI607  Structure of the Earth
SCI609  Transfer of Energy
SCI613  Earth in the Solar System
SCI629  Practical Meteorology
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.