

STEM FOR K- 6TH GRADE EDUCATORS (B.S.)

The Bachelor of Science in STEM for K-6th Grade Educators prepares future educators to integrate, apply, and foster scientific inquiry, technological and engineering design, and mathematical analysis as pedagogical approaches to STEM instruction. Students learn the principles and knowledge needed to educate learners in the disciplines of science, technology, engineering, and mathematics in a transdisciplinary and applied approach. STEM majors learn inquiry-based instruction and how to integrate this instruction into a cohesive learning paradigm based on real-world problems. By providing a foundational knowledge of content this degree positions students to work in various educational settings including elementary and middle schools, museums, libraries, government agencies, and community-based organizations.

Integrated Studies Requirements

40 credits minimum

STEM for K-6th Grade Educators

Code	Title	Credits	Completed
Major Requirements (36 Credits)			
<i>Science & Technology Core Courses (20 Credits)</i>			
INPHYS-201	Phenomenal Science	4	_____
<i>Space Systems</i>			
Select one of the following:		4	_____
INASTR-101	Intro to Planetary Astronomy		_____
INASTR-102	Intro to Stellar Astronomy		_____
<i>Earth and Climate Systems</i>			
Select one of the following:		4	_____
INMET-225	Meteorology		_____
INENST-201	Earth Cycles & Systems		_____
INENST-300	Geoscience Issues & Society		_____
ISENST-205	Environmental Geography		_____
<i>Biological Sciences</i>			
Select one of the following:		4	_____
INBIO-110	Cells and Molecules		_____
INBIO-111	Evolution & Ecology		_____
<i>Light and Matter Sciences</i>			
Select one of the following:		4	_____
INCHEM-100	Introduction to Chemistry		_____
INCHEM-111	General Chemistry		_____
INOPTC-101	Introduction to Optics		_____

Mathematics Core Courses (12 Credits)

MATH-141	Introductory Statistics	4	_____
MATH-112 or MATH-211	Precalculus Calculus I	4	_____
MATH-181	Comp Tools for Problem Solving	4	_____
<i>STEM Capstone</i>			
EDUC-442	Integrating Stem in the Class	4	_____
Total Credits		36	_____

Teacher Licensure

Only Elementary Education (K-6) students can declare this major to meet the requirement for the liberal arts major. This is not a stand-alone major, so students must meet the requirements for the elementary education major to have this as their second liberal arts major. Please see the catalog for details on Elementary Education requirements: <https://catalog.keene.edu/bachelors-degree-programs/> (<https://catalog.keene.edu/bachelors-degree-programs/stem-educators-bs/> Only Elementary Education (K-6) students can declare this major to meet the requirement for the liberal arts major. This is not a stand-alone major, so students must meet the requirements for the elementary education major to have this as their second liberal arts major. Please see the catalog for details on Elementary Education requirements: <https://catalog.keene.edu/bachelors-degree-programs/>)

Electives

Select courses to reach a total of 120 credits for the degree

Degree Requirements

120 credits

40 credits at the upper-level

Upon completion of the STEM for Educators B.S. degree, students will be able to:

- Develop a solid understanding of basic scientific principles, mathematical concepts, and engineering fundamentals and their applications through different disciplines
- Connect STEM concepts to real-world applications and careers to inspire students.
- Apply the vocabulary, foundational theories, and conceptual knowledge that defines a STEM curriculum.
- Bring hands on science and math materials, exercises, tools and experiences into their classrooms
- Use transdisciplinary strategies of inquiry, logical reasoning, and technology to address collaborative real-world problem solving.
- Support integrative STEM learning using the concepts and principles of science, technology, engineering, and mathematics as outlined in national standards documents.