SCI 1990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.

SCI 2990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.

SCI 3990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.

SCI 4990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.

Offers middle and high school teachers an opportunity for hands-on training to implement an innovative robotics curriculum that integrates concepts in engineering and technology with topics from the physical sciences. The engineering and technology concepts are derived from components of the Massachusetts Science and Technology/Engineering Curriculum Frameworks and presented for use in an inquiry-based learning environment. Using the engineering design process (EDP), offers participants an opportunity to identify a problem, design a solution with easy-to-use structural components, add appropriate automation and controls, and program and test their designs, as well as to develop experience using robotic components such as LEGO Mindstorms, TETRIX, and VEX Robotics. Emphasizes group situations, allowing for the development of shared learning experiences in a problem-based learning environment.

SCI 6610. Machines in Motion. 4 Hours.
Focuses on the Massachusetts Elementary and Secondary Education Science and Technology/Engineering Curriculum Framework. Using the playground as the science laboratory, offers participants an opportunity to explore how this environment provides for inquiry-based, open learning through the basic processes of experimentation, allowing students to think about collected results and what they mean. Examines how to pose questions to students to allow knowledge in physical science to be built in a stepwise fashion. Emphasizes group situations, allowing for the development of shared learning experiences in a problem-based learning environment. Activities are directed at the evaluation and use of common school facilities and playground equipment to study simple machines, motion, forces, fluid flow, sound, and strength of materials.

SCI 6962. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions.
May be repeated without limit.