

SCIENCE EDUCATION (SCE)

SCE3420 METHODS OF TEACHING PHYSICAL SCIENCES IN THE MIDDLE SCHOOL (4.00 Credits)

This course is a study of the fundamental concepts of physical science as part of teaching science in grades 5-9. This course focuses on three elements: content knowledge, inquiry and other teaching strategies, and use of multimedia and visualization tools in teaching and learning about physical science. This course incorporates methods and metacognitive strategies for learning and teaching, including scientific reasoning, prediction, and abstract and critical thinking, and helps educators optimize their science teaching experiences. Through the readings, videos, discussions, assignments, and other interactive experiences, learners in this course will have multiple opportunities to develop content knowledge about transfer of energy; light, sound, and waves; mechanisms of heat transfer; and solubility and density.

Total Contact Hrs: 64.00

Lecture Hrs: 64.00

Complete all the courses in the following option:

- Option 1 - Prerequisite: CHM1045 (minimum grade: C) and CHM1045L (minimum grade: C) and MAC1105 (minimum grade: C) and PHY1001 (minimum grade: C) and PHY1001L (minimum grade: C)

SCE3941 TEACHING MIDDLE AND SECONDARY SCHOOL SCIENCES PRACTICUM (3.00 Credits)

Science educators are faced with many unique sets of circumstances that are not encountered in other disciplines. These include unique legal and safety considerations, equipment acquisition and organization, and participation in programs that provide key resources. This course shall prepare the pre-professional science educator with some of the key tools and strategies that are utilized in the science classroom. Each unit focuses on one of the major areas that science educators will experience. The course is presented as a series of hands on experiences in which the student is involved in graded planning or concept exercises, followed by observed and graded application or execution of those plans.

Total Contact Hrs: 108.00

Lecture Hrs: 48.00

Other Hrs: 60.00

Fees: EDU/ACCIDENT INSURANCE \$4.75

Complete all the courses in one of the following options:

- Option 1 - Prerequisite: AST1003 (minimum grade: C) and EDF4430 (minimum grade: C) and EDG4410 (minimum grade: C) and EEX3011 (minimum grade: C) and EME3410 (minimum grade: C) and PHY1001 (minimum grade: C) and PHY1001L (minimum grade: C) and RED3342 (minimum grade: C) and SCE3320 (minimum grade: C) and SCE3420 (minimum grade: C)
- Option 2 - Prerequisite: EDF4430 (minimum grade: C) and EDG4410 (minimum grade: C) and EEX3011 (minimum grade: C) and EME3410 (minimum grade: C) and PCB3063 (minimum grade: C) and PCB4043 (minimum grade: C) and RED3342 (minimum grade: C) and SCE3320 (minimum grade: C) and SCE4330 (minimum grade: C) and ZOO4713 (minimum grade: C)

SCE4310 SCIENCE IN THE ELEMENTARY SCHOOL (1.00 Credits)

This course introduces conceptually and developmentally appropriate Science content based on the five content areas identified by the Florida Sunshine State Standard. These are knowledge of the nature of matter, knowledge of forces, motion, and energy, knowledge of Earth and space, knowledge of life science, knowledge of the nature of science, knowledge of the relationship of science and technology. Within these content areas, preprofessional educators will learn techniques consistent with the national process standards and research-based procedural strategies. This course addresses specific Sunshine State Standards, subject matter competencies, and pedagogy pertinent to the discipline and required for teacher certification.

Total Contact Hrs: 12.00

Lecture Hrs: 12.00

SCE4330 METHODS AND STRATEGIES OF TEACHING BIOLOGICAL SCIENCE (3.00 Credits)

This course is designed to introduce methods and strategies that have been proven to be effective for teaching secondary biology. This course will include topics in appropriate instructional techniques and selection of appropriate resources for diverse classroom activities. Students will learn principles of effective curriculum design and assessment and how to apply these principles by designing and developing interactive biology projects for secondary school students including real world applications.

Total Contact Hrs: 48.00

Lecture Hrs: 48.00

Fees: EDU/ACCIDENT INSURANCE \$4.75

SCE4943 STUDENT TEACHING IN MIDDLE GRADES SCIENCE (12.00 Credits)

This course is designed to provide students with multiple opportunities to practice implementing the 12 Florida Educators Accomplished Practices including effective planning, instruction, management and assessment techniques in a real-world middle and high school classroom setting under the supervision of a certified teacher.

Total Contact Hrs: 562.50

Other Hrs: 562.50

Fees: EDU/ACCIDENT INSURANCE \$4.75

SCE4944 STUDENT TEACHING IN BIOLOGICAL SCIENCES (12.00 Credits)

The Science Student Teaching course is designed to provide interns with a field-based experience at the appropriate grade in Science Classroom/lab. Through the Science Student Teaching course the interns will implement and master the 12 Florida Educator Accomplished Practices. The course will focus on Science Education topics in relation to the Student Teaching experience and the teaching profession. Note: The Internship is composed of a minimum of 37.5 contact hours per week for 12 weeks.

Total Contact Hrs: 450.00

Other Hrs: 450.00

Fees: EDU/ACCIDENT INSURANCE \$4.75

SCE4945 STUDENT TEACHING IN SCIENCE (12.00 Credits)

The Science Student Teaching course is designed to provide interns with a field-based experience at the appropriate grade in Science Classroom/lab. Through the Science Student Teaching course the interns will implement and master the 12 Florida Educator Accomplished Practices. The course will focus on Science Education topics in relation to the Student Teaching experience and the teaching profession. Note: The Internship is composed of a minimum of 37.5 contact hours per week for 12 weeks.

Total Contact Hrs: 450.00

Other Hrs: 450.00

Fees: EDU/ACCIDENT INSURANCE \$4.75