• SCIENCE EDUCATION

Requirements for the B.S. Degree (BSB, BSC, BSY): In addition to the courses listed below, students must complete “Preliminary Requirements for Students entering Teacher Education Programs.”

Prerequisites (State Mandated Common Prerequisites): These prerequisites must be met by transfer students as well as USF students. A grade of “C-” is the minimum acceptable grade.

EDF 2005 Introduction to Education
EDG 2701 Teaching Diverse Populations
EME 2040 Introduction to Educational Technology

• Nine (9) hours of Mathematics (to include College Algebra or above and Geometry)*
• Twelve (12) hours of Social Science (to include American History and General Psychology)
• Nine (9) hours of Natural Science (to include an Earth Science course, a Life Science course and a Physical Science course)
• One (1) Natural Science Course must have a lab component
• Six (6) hours of International or Multicultural Focus
• Nine (9) hours of English (to include Writing, Literature and Speech)
• Six (6) hours Humanities (to include Philosophy and Fine Arts)

*Only courses with the prefixes MGF, MTG, MAC, and STA will qualify for the courses in mathematics. MGF 1106 Liberal Arts Mathematics I meets the intent of the program approval rule with respect to the inclusion of geometry in the mathematics requirement.

For Biology Teacher Education -
Biology with Lab 8
Chemistry with Lab or Physics with Lab 8
Electives in Science 6

For Chemistry Teacher Education -
Chemistry with Lab 8
Biology with Lab or Physics with Lab 8
Electives in Science 6

For Physics Teacher Education -
Physics with Lab 8
Biology with Lab or Chemistry with Lab 8
Electives in Science 6

Professional Education Core for all Tracks (32 credit hours):
The required courses in the professional education core are as follows:

EDF 3214 Human Development and Learning 3
EDF 3604 Social Foundations of Education (Exit) 3
EDG 4620 Curriculum and Instruction 3
EDF 4430 Measurement for Teachers 3
EEX 4070 Integrating Exceptional Students in the Regular Classroom 2
FLE 4365 ESOL Competencies and Strategies 3
SCE 4936 Senior Seminar in Science Education 2
SCE 4940 Internship: Science Education 10
Classroom Management Course 3

Required Courses for All Science Education Majors (12 credit hours):
SCE 4236 Science, Technology, Society (Exit) 4
(see specific major below)
SCE 4305 Communication Skills in the Science Classroom 3
SCE 4320 Teaching Middle Grade Science 3
SCE 4330 Teaching Methods in Secondary School Science 3

For Biology Majors:
SCE 4263

For Chemistry Majors:
SCE 4263

For Physics Majors:
SCE 4263

Biology Education
Prerequisites (38 credit hours):
BSC 2010 Biology I* 3
BSC 2010L Biology I Lab* 1
BSC 2011 Biology II* 3
BSC 2011L Biology II Lab* 1
CHM 2045, 2045L General Chemistry I and Lab* 8
CHM 2046, 2046L General Chemistry II and Lab 8
PHY 2048, 2048L General Physics I and Lab (with Calculus)
PHY 2049, 2049L General Physics II and Lab* (with Calculus) 8
PHY 2053, 2053L General Physics and Lab* 8
PHY 2054, 2054L General Physics and Lab 8
Science Elective (Earth Science Only) 3
Human Anatomy Physiology Course 3
CHM 2046 General Chemistry II with lab 4
PHY 2054 General Physics II with lab 4

Specialization (33 credit hours):
Human Anatomy Physiology Course 3
PCB 3063 General Genetics 3
PCB 3023, 3023L Cell Biology and Lab 4
PCB 3043, 3043L Principles of Ecology and Lab 4
PCB 4674 Organic Evolution 3
MCB 3030C Introduction to Microbiology 4
BSC 4057 Environmental Issues (Exit) 3
SCE 4320 Teaching Methods in Middle Grades Science 3
SCE 4330 Teaching Methods in Secondary School Science 3
SCE 4305 Communication Skills in the Science Classroom 3
SCE 4237 Science, Technology, Society Interaction 3
CHM 4070 Historical Perspectives in Chemistry 3
PHY 4031 Great Themes in Physics 3

Additional Requirements
MAC 2281 Engineering Calculus I 4

Chemistry Education
Prerequisites (39 credit hours):
CHM 2045 General Chemistry I* 3
CHM 2045L General Chemistry Lab* 1
CHM 2046 General Chemistry II* 3
CHM 2046L General Chemistry II Lab* 1
BSC 2010, 2010L Biology I and Lab* 8
BSC 2011, 2011L Biology II and Lab* 8
PHY 2048, 2048L Physics I and Lab* (with Calculus) 8
PHY 2049, 2049L Physics II and Lab* (with Calculus) 8
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PHY 2053, 2053L  Physics and Lab*
and
PHY 2054, 2054L  Physics and Lab* 8
Science Elective (Earth Science Only) 3

Specialization (32 credit hours):
CHM 2210, 2210L  Organic Chemistry I and Lab 4
CHM 3120C Elementary Analytical Chemistry 3
CHM 3400  Elementary Physical Chemistry I 3
CHM 3610, 3610L  Intermediate Inorganic Chemistry and Lab 4
CHM 4070  Historical Perspectives in Chemistry 3
BCH 3023  Introductory Biochemistry 3
SCE 4320  Teaching Methods in Middle Grades Science 3
SCE 4330  Teaching Methods in Secondary School Science 3
SCE 4305  Communication Skills in the Science Classroom 3
SCE 4237  Science, Technology, Society Interaction 3
or
BSC 4057  Environmental Issues 3
or
PHY 4031  Great Themes in Physics 3

Physics Education
Prerequisites (33 credit hours):
BSC 2010, 2010L  Biology I and Lab* 8
and
BSC 2011, 2011L  Biology II and Lab* 8
or
CHM 2045, 2045L  General Chemistry I and Lab* 8
and
CHM 2046, 2046L  Chemistry II and Lab* 8
PHY 2048, 2048L  General Physics I and Lab* (with Calculus) 8
and
PHY 2049, 2049L  General Physics II and Lab* (with Calculus) 8
or
PHY 2053, 2053L  General Physics I and Lab* 8
and
PHY 2054, 2054L  General Physics II and Lab* 8
Science Elective (Earth Science Only) 3

Specialization (30 credit hours):
PHY 2020  Conceptual Physics 3
PHY 3101  Modern Physics 3
PHY 3221  Mechanics I 3
PHY 3323C Electricity and Magnetism 3
PHY 4031  Great Themes in Physics 3
Physics Electives (Select from PHY3 to PHY5, PHZ3 to PHZ5)
Computer Applications in Physics 3
SCE 4320  Teaching Methods in Middle Grade Science 3
SCE 4330  Teaching Methods in Secondary School Science 3
SCE 4305  Communication Skills in the Science Classroom 3
SCE 4237  Science, Technology, Society Interaction 3
or
CHM 4070  Historical Perspectives in Chemistry 3
or
BSC 4057  Environmental Issues 3

*May be part of General Education Requirements