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| **Biology**  \_\_\_\_\_BIO 5100 Marine Biology (3) (course fee – travel to Bermuda)  \_\_\_\_\_BIO 5120 Topics in Ecology and Environmental Biology (3)  \_\_\_\_\_BIO 5150 Advanced Microbiology (3)  \_\_\_\_\_ BIO 5140 Biogeography (3)  \_\_\_\_\_BIO 5200 Current Trends in Molecular and Cell Biology (3)  \_\_\_\_\_BIO 5250 Evolutionary Botany (3)  \_\_\_\_\_BIO 5350 Evolutionary Zoology (3)  \_\_\_\_\_ BIO 5280 Teaching Practicum in Biology (3)  \_\_\_\_\_ BIO 5400 The Natural History of Costa Rica (3) (course fee – international travel)  \_\_\_\_\_BIO 5550 Independent Biology Research (3)  \_\_\_\_\_ BIO 5770 Science in the Natural Environment (3)  \_\_\_\_\_ BTEC 5300 Medical Biotechnology (3) \_\_\_\_\_ BIOS XXXX Medical Entomology (3)  \_\_\_\_\_ BIOS XXXX Advanced Modern Biology (3)  \_\_\_\_\_ BIOS XXXX Genomics and Bioinformatics (3) \_\_\_\_\_ BIOS XXXX Field Ornithology (3)  \_\_\_\_\_ BIOS XXXX Comparative Vertebrate Anatomy (3)  Other BIOS course as needed – ex. Molecular Biology  **Chemistry**  \_\_\_\_\_CHM 5200 Current Trends in Chemistry (3)  \_\_\_\_\_CHM 5480 Historical Perspectives of Chemistry (3)  \_\_\_\_\_CHM 5500 Spectroscopic Methods of Structure Determination (3)  \_\_\_\_\_CHM 5600 Instruments for Chemical Analysis (3)  \_\_\_\_\_CHM 5420 Environmental Chemistry (3) (Hybrid)  \_\_\_\_\_CHMS XXXX Forensic Chemistry (3) (Online)  \_\_\_\_\_CHMS XXXX Atmospheric Chemistry & Climate Change (3) (Hybrid)  Other CHMS course as needed – ex. Independent Research in Chemistry  **Earth Science**  \_\_\_\_\_GLY  5010 Essentials of Earth Science (3)  \_\_\_\_\_GLY  5020 Essentials of Earth History (3)  \_\_\_\_\_GLY  5410 Meteorology and Climatology (3)  \_\_\_\_\_ GLYS 5160 Essentials of Oceanography (3)  \_\_\_\_\_ GLYS 5030 Geology of North Carolina (3)  \_\_\_\_\_GLYS 5010 Geology Fieldtrip (3)  \_\_\_\_\_ GLYS 5060 Isotope Geochemistry (3)  \_\_\_\_\_ GLYS 5090 Quaternary Climate Change (3)  \_\_\_\_\_ GLYS 5130 Environment & Culture (3)  \_\_\_\_\_ GLYS 5140 Remote Sensing (3)  \_\_\_\_\_ GLYS 5150 Local Geologic Research (3)  Other GLYS course as needed – ex. Independent Research in Geology  **Physics**  \_\_\_\_\_PHS 5000 The Art & Science of Chemistry & Physics (3) (online)  \_\_\_\_\_PHY 5200 Current Trends in Physics (3)  \_\_\_\_\_PHY 5480 Historical Perspectives of Physics (3)  \_\_\_\_\_PHY 5500 Classical Mechanics (3)  \_\_\_\_\_PHY 5600 Modern Physics (3)  \_\_\_\_\_ PHYS XXXX Instrumentation in Physics (3)  \_\_\_\_\_ PHYS XXXX Astronomy (3) | 15 |
| **Capstone Experience**  edTPA and TASKSTREAM advanced documents REQUIRED. All students MUST purchase TASKSTREAM and complete dispositions and other requirements upon being admitted to the program. |  |
| **Phase II Total** | **21** |
| **Combined Total (Phase I and II) 39** | **Credits** |

**Phase I**

**Phase II**

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| **Professional Core (Phase I)**  \_\_\_\_\_EDN 5040 Basic Tenets of Education (3)  \_\_\_\_\_EDN 5120 Advanced Study of Exceptionality in Children (3)  \_\_\_\_\_EDN 5660 Survey of Educational Research (3) **(can take EDN 5660 instead, To be taken before SCE 5500)**  \_\_\_\_\_EDN 5460 Field Experience (0) | 9 |
| **Pedagogical Expertise (Phase I)**  \_\_\_\_\_SCE 5000 Teaching Science in Grades 6-12 (3) (hybrid) | 3 |
| **Professional Development (Phase I)**  \_\_\_\_\_SCE 5810 Internship in Secondary Science Education (3)  (Required – edTPA document completed here) | 3 |
| **Academic Specialization (Phase I)**  \_\_\_\_\_Complete one graduate science course from the list in Phase II (3) | 3 |
| **Completion Product:** edTPA practice document |  |
| **Phase I Total** | **18** |

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| **Pedagogical Expertise (Phase II)**  \_\_\_\_\_SCE 5600 Foundations of Science Education (3)  \_\_\_\_\_SCE 5500 Science in the Middle School (3) **(capstone experience - should be taken semester before graduation – can substitute SCE 5700 here)** | 6 |
| **Academic Specialization (Phase II)** Courses must be approved by advisor.  Select one course from each discipline and one additional courses from any of the remaining courses listed: |  |



**Preparing professional educators who are committed, collaborative, and competent.**

#### M.A.T. Science Education

If you have questions about this program, please contact the Graduate Science Education Program Director or the Undergraduate Science Education Program Coordinator:

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