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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 5200 Current Trends in Molecular and Cell Biology (3)\_\_\_\_\_BIO 5250 Evolutionary Botany (3)\_\_\_\_\_BIO 5350 Evolutionary Zoology (3)\_\_\_\_\_ BIOS 5025 The Natural History of Costa Rica (3) (course fee – international travel)\_\_\_\_\_BIOS 5150 Independent Biology Research (3)\_\_\_\_\_ BIOS 5160 Biogeography (3)\_\_\_\_\_ BIOS 5770 Science in the Natural Environment (3)\_\_\_\_\_ BIOS XXXX Advanced Topics in Modern Biology (3)\_\_\_\_\_ BTEC 5300 Medical Biotechnology (3) \_\_\_\_\_ BIOS XXXX Genomics and Bioinformatics (3)\_\_\_\_\_ BIOS 5280 Teaching Practicum in Biology (3)  Other BIOS courses as offered – 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)\_\_\_\_\_CHMS 5420 Environmental Chemistry (3) (Hybrid)\_\_\_\_\_CHMS XXXX Forensic Chemistry (3) (Online)\_\_\_\_\_ CHMS XXXX Climate Change and Atmospheric Chemistry (3) (Hybrid) Other CHMS courses as offered – 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) \_\_\_\_\_ GLY 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 courses as offered – 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 TASKKSTREAM 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** |

**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) \_\_\_\_\_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 5700 Improving 9-12 Science Classroom Instruction (3) **(capstone experience - should be taken semester before graduation)** | 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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