**Master of Arts in Science Education: Non-Licensure**

**Concentration in Biology**

**Program Checklist**

|  |  |
| --- | --- |
| **Required Science Education Courses (6 hours)**  **Two core foundational courses:**  \_\_\_\_\_SCE 5600 Foundations of Science Education (3)  \_\_\_\_\_SCE 5700 Improving 9-12 Science Classroom Instruction (3) (capstone course taken semester before grad.) | **6** |
| **Required Science Content Courses**  **A minimum of 18 up to 21 semester hours from the following:**  Five courses from the following:  \_\_\_\_\_ 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) \_\_\_\_\_ BIOS XXXX Molecular Biology (3)  Additional BIOS courses as needed. | **18-21** |
| **Guided Electives**  The program director **must approve the elective selections** based upon the student’s career goals and  objectives. Two research methods courses should be a part of this selection and the research  method courses should be taken before SCE 5700. A practicum based on the individual’s professional goals is  required. Recommended courses in addition to the research courses include Teaching Practicum in Biology and  Independent Biology Research. | **12 -9** |
| **Capstone Experience**  Each candidate must select and successfully complete a Master’s Research Project as the final product of the  program and successfully complete a Comprehensive Exit Oral Interview. The Master’s Research Project must be   approved by the candidate’s graduate committee. |  |
| **TOTAL** | **36** |

Updated August 2018