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

**Concentration in Biology**

**Program Checklist**

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| **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) (course fee – travel to coast)\_\_\_\_\_ 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 Advanced Comparative Anatomy and Physiology (3)\_\_\_\_\_ BIOS XXXX Principles of Neurobiology (3)  | **18-21** |
| **Guided Electives**  The program director **must approve the elective selections** based upon the student’s career goals and  objectives. A least one and possibly two research method 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** |

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