

Check list of science courses for the MAT Earth Science Program -- Stony Brook University
Effective September 2009

These science course requirements must be met before you begin student teaching.

A. Introductory science courses

The following courses or their equivalents at other colleges or universities are required.

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| _____ AMS 102 Elements of Statistics | _____ CHE 132. General Chemistry II |
| _____ AST 101 Introduction to Astronomy | _____ CHE 133 General Chemistry Laboratory I |
| _____ AST 112 Astronomy Laboratory | _____ CHE 134 General Chemistry Laboratory II |
| _____ ATM 102 Weather and Climate | _____ GEO 102 The Earth |
| _____ ATM 205 Introduction to Atmospheric Sciences | _____ GEO 103 The Earth Through Time |
| _____ BIO 201 Fundamentals of Biology | _____ GEO 112 Physical Geology |
| _____ BIO 202* Fundamentals of Biology | _____ GEO 113 Historical Geology Laboratory |
| _____ BIO 204* Fundamentals of Scientific Inquiry | _____ MAT 125 Calculus A |
| _____ CHE 131 General Chemistry I | _____ PHY 119 Physics for Environmental Studies |

*Change in Biology course requirements affects all students who begin to take introductory courses in Fall 2009.

B. Graduate or Advanced Undergraduate Earth Science Courses - 24 Credits

Advanced courses are those courses with a pre-requisite of an introductory course or a sequence of introductory courses. At Stony Brook most advanced courses are numbered 300 or higher. It is highly recommended that earth science education students take GEO 403/543 Stratigraphy, GEO 306/546 Mineralogy and Petrology, GEO 407/507 Igneous and Metamorphic Petrology and GEO 309/549 Structural Geology either as an undergraduate or graduate student. These courses form the core of geology as taught in the earth science curriculum.

1. At least 12 Credits within Earth Sciences, that is, astronomy, atmospheric sciences and geology. Some marine science courses with an earth science theme may also be acceptable. Graduate atmospheric science courses have an MAR designator.

Credits

- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Total _____

2. At least 12 credits in one scientific discipline. The acceptable disciplines are geology, astronomy, atmospheric science, physics, chemistry, biology, physical geography or environmental science.

- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Total _____

C Graduate Earth Science Courses - 15 Credits (These may include courses also listed under B above)

- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Course _____
- _____ Total _____

At least one of the graduate courses requires a research report that involves selecting or collecting data or observations, processing and interpreting this information and presenting it in a professional style. A report that consists of a literature review is not acceptable to meet this requirement. The research projects are generally associated with the science courses required for this degree. The student must arrange with the instructor and the MAT advisor before or at the beginning of the semester about the requirements for these projects. **A lesson plan cannot be used as a substitute for a research report.**