

Science Course Prerequisites for Secondary Science Teacher Certification at the Graduate Level

MAT and non-degree certification Science Education, University of Georgia

Prospective students interested in our Secondary Science Teacher Certification programs at the graduate level come from a very wide variety of academic and professional backgrounds. The faculty have therefore developed the following guidelines for sufficient science content preparation in each of the fields in which we offer certification. Such preparation is highly recommended before applying and is required before beginning the Science Education coursework that forms the core of our program.

If you hold a bachelor's degree in one of the four basic science fields (Biology, Chemistry, Physics or Earth Science), you will likely meet all the prerequisites for our program. However, you will eventually need to review your transcripts with a member of the faculty to determine for certain that you have met the content requirements for your area.

If you have one or more degrees in a science-related field (e. g. engineering, exercise science, environmental health, agriculture, allied health sciences, etc.), one of the faculty will need to review your transcripts to determine if you have met the requirements for one of the four disciplines. Missing areas may be completed by taking appropriate courses beyond the introductory level, in most cases comparable to upper division (3000-4000 level) science courses at UGA, at any college or university. Such "catch-up" coursework at the undergraduate level may be taken at UGA after admission to the Graduate School, but must be completed to be eligible to register for Science Education coursework.

Before applying, we suggest that you consider our guidelines for content-area preparation, listed below, and judge how your science course background compares:

Option 1. (less specific, along the lines of minimum state requirements):

Have at least 6 college courses in the same field in which you plan to pass the GACE test, at least 4 of which are above the introductory level.

Option 2. (more rigorous, strongly recommended and preferred by our faculty):

Have taken a two-course, introductory, laboratory sequence in one of these basic science fields, plus specialized courses beyond the introductory level in each of the major subfields listed:

Biology (4 of 5 required):

Biochemistry/Molecular Biology
Cellular Biology
Genetics/Evolutionary Biology
Anatomy/Physiology
Ecology/Natural History

Chemistry (all 4 required):

Physical Chemistry
Organic Chemistry
Biochemistry
Quantitative/Qualitative Analysis

Physics (4 of 5 required):

Mechanics
Thermodynamics
Electromagnetism
Waves/Optics
Modern Physics

Earth Sciences (4 of 5 required):

Mineralogy/Petrology
Internal/Surficial Processes
Paleontology/Historical Geology
Atmospheric/Oceanic Science*
Astronomy*

* In these Earth Science subfields, an introductory-level course, such as GEOG 1112, or ASTR 1010 or 1020 at UGA, is acceptable.

Note: All certification students must eventually pass the GACE subject field tests (there are two parts for each field). More information about GACE content requirements for the state of Georgia can be found at <http://www.gace.nesinc.com/>.