

**Wellesley-MIT Teacher Education**  
**Additional Information on Subject Matter Knowledge and Subject Advising**  
**for the General Science Teaching Program**

**Subject Matter Requirements.**

Massachusetts regulations specify the following subject matter knowledge requirements for General Science (grades 5-8) teachers. To understand more about what is intended in each area, please study the Massachusetts Curriculum Frameworks for Science, which we can give you a copy of and which can be found on line at [www.doe.mass.edu](http://www.doe.mass.edu). You can also examine the test objectives for the Massachusetts subject test in this area. (This test is required only for licensure in Massachusetts.) To see these objectives, go to [doe.mass.edu](http://doe.mass.edu), and select Educator Licensure Tests.

**Areas of subject matter knowledge for General Science:**

General Science (grades 5-8)

The following topics will be addressed on a subject matter knowledge test for the 5-8 level

1. Intermediate knowledge of biology, chemistry, physics, earth/space science, and related mathematics
2. Methods of research in the sciences, including laboratory techniques and the use of computers
3. History and philosophy of science

You would meet the requirements, first, by completing the set of courses described below; second, by doing additional study in areas where you have not taken courses; and, third, by demonstrating your knowledge via student teaching and the MTEL subject test. (MTEL stands for Massachusetts Tests for Educator Licensure.) Or if you do not plan to take the MTEL subject test because you do not intend to teach in Massachusetts, you can alternatively do a portfolio review process.

**Planning required subject matter courses and study.**

It will be possible to address most areas of required knowledge while fulfilling the General Institute Requirements at MIT, or the pre-med requirements at Wellesley, though a science related major is also highly desirable, and in any case, substantial course work above the introductory level is required. **Please consult with our general science subject matter advisors, Prof. Meg Thompson at Wellesley or Prof. Graham Walker at MIT, about how you will plan to address all areas of required knowledge.**

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**Required courses:**

1. At least eight courses in science, with at least one course in each of the following four areas: biology, chemistry, physics, and earth/planetary/space science. At least two courses of the eight courses must include laboratory, or else the Laboratory Requirement at MIT must be completed.
2. At least one course in mathematics.

Strongly recommended: a course in the history of science, such as STS.001, STS.002, or STS.003 at MIT, or History 223 at Wellesley.

**Additional study**

For the required areas of subject matter knowledge listed that are not covered by your required or other courses, additional study will be needed. This study provides a wonderful opportunity for valuable, stimulating learning. Please discuss your plan of study with our general science subject matter advisors, with your major advisor, and with Ken Hawes or Eric Klopfer.