

Prep Resources: How to Improve Prep in this Area

Standard 5: Elementary Math

KEY STANDARD — Undergraduate Elementary, Special Education Programs & Graduate Elementary, Special Education Programs

Follow these steps to improve your preparation program and your score:

- ❑ **1st:** Require at least eight semester credit hours (SCHs) in elementary math content. (If your IHE attracts very academically capable students, six SCHs may be sufficient).
- ❑ **2nd:** Use a mathematics textbook that has been rated high in quality by NCTQ’s mathematician advisors. A score of 150 or more on this *textbook review list* signifies strength in building the conceptual understanding necessary for teaching.
- ❑ **3rd:** Work with elementary content math instructors to ensure that coursework addresses topics found in rigorous state standards for grades K-5.

What topics should Elementary Mathematics Courses cover?

1. **Numbers and operations:** Whole numbers and place values, fractions and integers, decimals (including ratio, proportion, percent), estimation.
2. **Algebra:** Constants, variables, expressions; equations; graphs and functions.
3. **Geometry:** Measurement; basic concepts in plane and solid geometry; polygons and circles; perimeter, area, surface area, volume.
4. **Data analysis and probability:** Probability and data display and analysis.

What’s going on in graduate programs?

1. Graduate elementary and special education programs devote an average of only 0.3 SCHs to elementary mathematics topics.
2. In about two-thirds of the 74 institutions in which we evaluate both undergraduate and graduate elementary programs, undergraduate candidates are required to take elementary math content courses and graduate candidates are required to take none.

77 programs require the equivalent of at least **eight mathematics credits**.

204 programs are **only two credits** or fewer away from having **sufficient coursework**.



A few programs that meet this standard:



Follow the links below to learn more

- Exemplary Programs & Findings nctq.org/dmsView/Teacher_Prep_Review_2014_Std5
 Methodology & Rationale nctq.org/dmsView/Standard_Book_5
 Resources nctq.org/teacherPrep/review2014/resources/index.jsp