Three Pathways to Teaching Middle School or Higher-Level Mathematics
May 2012

I. Elementary and Middle School:
   A. Pass the CSET-MS and earn a multiple subject credential.
   B. When you apply for your credential or later, add the Introductory Subject Matter Authorization in mathematics (see below) by proving you have completed 32 units of math with the required pattern of courses and a C or better each course.
   This pathway is best for individuals who prefer to teach in elementary school but want the option to teaching in middle school. Student teaching is completed in an elementary school. K – 8 districts are more likely to hire individuals with this certification than individuals with just the elementary school certification.

II. Elementary, Middle School, lower level High School:
   A. Pass the CSET-MS and earn a multiple subject credential.
   B. Add a single subject credential in Foundational-Level Mathematics (see below) by
      1. passing CSET-Math I (110) and CSET-Math II (112) AND
      2. passing TE 914, the single subject math methods class. This class is offered during fall semesters usually Wednesdays at 4 PM. (In rare cases, this course may be taken while you are completing the multiple subject credential program; however, usually you need to complete it the following fall through the College of Extended Studies.)
   This pathway is best for individuals who want to teach in either elementary or middle school. Student teaching is completed in an elementary school. K - 12 districts, such as the San Diego Unified School District, have told Bonnie Telfer that they are more likely to hire individuals with a single subject credential and Foundational-Level Mathematics certification than individuals with just an Introductory Subject Matter Authorization in mathematics and a multiple subject credential.

III. Middle School and lower level High School:
   A. The CSET-MS is NOT required because you will not earn a multiple subject credential!
   B. Instead earn a single subject credential in Foundational-Level Mathematics certification by
      1. passing CSET-Math I (110) and CSET-Math II (112) before you apply AND
      2. completing the single subject credential program.
   This pathway is for individuals who know they want to teach lower-level mathematics in middle school or high school. Student teaching is done in middle or high school, which makes these individuals more hirable for these levels. Students who later change their minds and decide they also want the option of teaching in elementary school can do so by passing (a) the CSET-MS, (b) the RICA exam or TE 930, Teaching Reading and Language Arts in the Elementary Classroom, and (c) TE 910, Elementary Methodology (ask Bonnie Telfer).

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Documentation: [see http://www.ctc.ca.gov/help/supplement-SMA/SMA.html for more]
1. Subject Matter Authorization Guideline Book, Commission on Teacher Credentialing, Feb. 2005:
   *An Introductory subject matter authorization requires the verification of at least three semester units in each content area listed after that subject. (C or better)
   *Introductory Mathematics: algebra, advanced algebra, geometry, probability or statistics, development of the real number system or introduction to mathematics. (etc.)
   One mathematics-computer based course is acceptable as additional units toward the required 32 units.

See the Liberal Studies Introductory Subject Matter Authorization (ISMA) in Mathematics worksheet for 2010 and earlier catalogs (link 1) or 2011 and later (link 2) catalogs.
2 or 3. Information on Foundational-Level Mathematics

Go to the CSET web site at [www.cset.nesinc.com](http://www.cset.nesinc.com). Select:
Before You Register → Test Selection → Paper-Based Testing → scroll down to CSET: Single Subjects Scroll down to:

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<tr>
<td>I (110)</td>
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<td>Number Theory</td>
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<td>II (111)</td>
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<td>Probability and Statistics</td>
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**Important notes:** A Single Subject Teaching Credential in Foundational-Level Mathematics authorizes teaching only in limited mathematics content areas: general mathematics, algebra, geometry, probability and statistics, and consumer mathematics.

A graphing calculator will be allowed for Subtest II only (see "Approved Graphing Calculators" following these test information tables for detailed information). Examinees must bring their own graphing calculator to the test administration, and it must be one of the approved models listed. On the day of the test, Mathematics Subtest II will be administered first and other CSET subtests for which an examinee is registered will be distributed after the examinee completes Mathematics Subtest II.

**For help passing the CSET-Math I and CSET-Math II tests:**

The Math Science Teacher Institute (MSTI) offers summer courses are designed to help individuals pass the CSET-Math I (110) and CSET-Math II (112). If you only want to try for the Foundational-Level Mathematics certificate, take the two courses for free in June-July and try to pass the two math CSET tests in July. If you are also trying to reach 32 units of math needed for a Subject Matter Authorization (in case you don’t pass!), ask how you can pay for these courses. They can count as units. One of the main topics not covered in the LIB S specialization is vectors, vector cross products, and determinants. There are other topics that you could benefit from a review. See the MSTI flyer on the Liberal Studies website by visiting [http://libst.sdsu.edu/courses/FocusAreas.html](http://libst.sdsu.edu/courses/FocusAreas.html)