
Middle Grades STEM Teacher Licensure Standards

The Background:

Over the past two years Tennessee has undergone systemic revisions to almost all aspects of the public education system. To help support these changes it is necessary to examine not only the current force of teachers, but teachers coming through the training pipeline as well. Student curriculum standards have been raised so it follows that teacher content knowledge and pedagogical strategies much keep pace.

A STEM license for middle grades teachers addresses these concerns. These teachers will be licensed to teach in math, science, and technology in grades 5-9. They will be licensed to teach Physical Science and Algebra I along with Exploring Technology (5-6), Inventions and Innovations (7), Technological Systems (8), and Foundations of Technology (9).

At the January 2011 meeting the of the State Board of Education the board unanimously approved the formation of an endorsement area designed to help produce teacher with greater content knowledge for teaching math and science in the middle grades, specifically in grades 5-9.

These standards take a comprehensive approach to STEM instruction. The standards not only address the more common disciplines of math and the sciences, they also incorporate the often neglected areas of technology and engineering. Likewise, there is attention given to adolescent development, reading, writing, speaking and listening, and STEM interdisciplinary principles of instruction. These standards provide well-balanced and in-depth approach to middle grades teacher preparation and are designed to help produce teachers who are prepared to meet the demands of teaching a rigorous curriculum.

Those teachers currently employed with a generalist license will maintain that status, and this program will not change their employability. Likewise, university teachers training programs are not required to shift away from the programs in operation. The STEM license (5-9) serves as another option universities and teacher candidates have.

The work to build this licensure area has been going on over the course of the past two years. Members of the SBE's Advisory Council on Teacher Education and Certification (ACTEC) expressed an interest in creating more subject-specific licensure options for middle grades teachers and after SBE staff consultation with the Tennessee Math, Science, and Technology Education Center (TMSTEC) at MTSU it was decided that they would become the lead organization in the formulation of program recommendations to the SBE. What followed was a series of meetings and conferences including stakeholders statewide. The list of included partners includes TMSTEC, the State Board of Education, the State Department of Education, TBR universities and

the associated STEM centers, The University of Tennessee, the SDE's Principal Study Council, TOSS, ETS, and many others.

These standards have been carefully vetted by many members of the Tennessee STEM community. Also, the State Board's Advisory Council on Teacher Education and Certification will have the opportunity to address any concerns and make appropriate recommendations regarding these licensure standards before final reading at an upcoming meeting prior to final SBE approval.

The Master Plan Connection:

This item supports the Board's *Master Plan* by providing for effective teachers.

First to the Top Connection:

This item supports assurances within First to the Top by providing for the development of both effective teachers.

The Recommendation:

The State Board of Education staff recommends acceptance of the STEM 5-9 licensure standards on first reading.