

Your Question: You asked about two types of state policies related to middle/high school CTE and STEM teachers:

- Policies to assist in the transition of career professionals into full-time teaching positions in these subject areas
- Policies permitting professionals to maintain at least part-time non-teaching careers while teaching one or more CTE or STEM courses in subjects related to their professional or educational backgrounds.

Our Response: Yes. A number of states have both long-standing and newer financial aid policies to encourage young people to pursue credentials to teach secondary-level math and science in particular. However, these policies are typically scholarship, loan forgiveness and other financial incentives not tailored to the needs of mid-career professionals, including those who may not be pursuing a full-time teaching position. Likewise, mid-career professionals not seeking to transition to a career in teaching may find traditional alternative certification processes prohibitively burdensome.

Alternative credentialing for professionals transitioning to CTE/STEM teaching

The states that follow present a recent wave of options for mid-career professionals to obtain credentials to teach secondary-level STEM or CTE courses.

Arizona: The state board of education must provide for the issuance of a specialized teaching certificate for individuals with expertise in science, technology, engineering or mathematics. Individuals certified under these provisions may teach any grades 6-12. Such individuals must complete training in structured English immersion as prescribed by the state board. Teachers certified pursuant to these provisions are exempt from the professional knowledge and subject knowledge proficiency requirements prescribed in [section 15-533](#), and from the proficiency requirements prescribed in [section 15-532](#) on the U.S. and Arizona Constitutions. ([A.R.S. § 15-203\(14\)\(f\)](#))

California: The Science, Technology, Engineering, Math, and Career Technical Education Educator Credentialing Program was established by legislation approved in 2010. The legislation directs the California Commission on Teacher Credentialing to develop a process to authorize additional high-quality alternative route educator preparation programs provided by school districts, county offices of education, community-based organizations, and nongovernmental organizations. Organizations participating in this project may offer educator preparation programs for any science, mathematics, and career technical education credential type issued by the commission if the organization meets the commission-adopted criteria. The commission must authorize community-based or accredited nongovernmental organizations, and may establish alternative criteria, if necessary, for project participants that are not eligible for accreditation by one of the accredited organizations. ([West's Ann. Cal. Educ. Code § 44227.2](#))

More details available in [Science, Technology, Engineering and Mathematics and Career Technical Education: A Guide for Program Sponsors](#) and [Do You Want to Teach in California? Science Technology Engineering and Mathematics Career Technical Education](#).

Florida: An individual may receive a professional certification to teach grades 6-12 who:

- With the exception of “demonstrate mastery of professional preparation and education competence”, meets certain traditional certification requirements¹
- Holds a master's or higher degree in the area of science, technology, engineering, or mathematics
- Teaches a high school course in the subject of the advanced degree
- Is rated “highly effective” in the teacher's performance evaluation, based in part on student performance on a statewide, standardized assessment or an Advanced Placement (AP), Advanced International Certificate of Education, or International Baccalaureate (IB) exam
- Achieves a passing score on the Florida professional education competency examination as required by state board rule. (West's F.S.A. § 1012.56(7), as amended by 2016 [H.B. 189](#))

Kansas: An applicant may not be required to complete a teacher preparation program prior to licensure as a teacher if such applicant holds:

- An industry-recognized certificate in a technical profession; has at least five years of work experience in such technical profession; and has secured a commitment from the board of education of a school district to be hired as a teacher to teach a CTE course related to such technical profession; or
- At least a bachelor's degree in the subject matter area of science, technology, engineering, mathematics, finance or accounting; has at least five years of work experience in such subject matter area; and has secured a commitment from the board of education of a school district to be hired as a teacher to teach in such subject matter area. ([K.S.A. 72-1399\(b\)](#))

Ohio: The state board must issue a provisional educator license for teaching science, technology, engineering, or math in grades 6-12 in a [STEM school](#) to any applicant who:

- Holds a bachelor's degree from an accredited institution of higher education in a field related to the subject area to be taught, and
- Has passed an exam prescribed by the state board in the subject area to be taught.

The holder of a provisional license issued under these provisions must complete a structured apprenticeship program offered by an educational service center or a teacher preparation program, in partnership with the STEM school employing the license holder. The apprenticeship program must include mentoring by a teacher or administrator that includes specified components, as well as regularly scheduled meetings or seminars that address specified pedagogical, classroom management and state policy issues such as state standards, assessments, and school and district accountability.

After two years of teaching under a provisional STEM educator license, a person may apply for a five-year professional educator license in the same subject area named in the provisional license. The state board must issue the applicant a professional educator license if the applicant meets requirements enumerated in [R.C. § 3319.28\(D\)](#). ([R.C. § 3319.28](#))

Ohio also establishes a pathway for professionals with a bachelor's degree or higher, or significant experience in the subject the individual is to teach, to teach up to 12 hours a week or, for a teacher in a STEM school, up to 40 hours a week. More details under Ohio section of “Alternative credentialing for part-time teachers” below.

Utah: Subject to receipt of matching private funds, the state board of education may award grants to institutions of higher education or nonprofit educational organizations for programs that provide mentoring and training leading to a secondary education license with a math endorsement for an individual who is not a public or private school teacher, does not have a teaching license, and has at least a bachelor's degree and demonstrates a high level of mathematics competency by passing a math content exam, or completing substantial coursework in mathematics. ([U.C.A. § 53A-6-901](#))

Virginia: Any division superintendent may apply to the department of education for an annual waiver of the teacher licensure requirements for any individual whom the local board hires or seeks to hire to teach in a trade or industrial education program, and who has obtained or is working toward an industry credential relating to the program area, and who has at least 4,000 hours of recent and relevant employment experience, as defined by the state board in regulation. ([2016 Chapter 435](#))

Alternative credentialing specifically for part-time STEM or CTE teachers

Florida: Districts must adopt policies to allow for the issuance of an adjunct teaching certificate to any applicant who meets the requirements of s. [1012.56\(2\)\(a\)-\(f\) and \(10\)](#) and who has expertise in the subject area to be taught. An applicant is considered to have expertise in the subject area to be taught if the applicant demonstrates sufficient subject area mastery through passage of a subject area test. The adjunct teaching certificate must be used for part-time teaching positions. ([West's F.S.A. § 1012.57](#))

Ohio: The state board of education to issue permits to qualified individuals who have not completed teacher licensure requirements. Such individuals may teach no more than 12 hours a week, except that individuals teaching in a STEM school may teach up to 40 hours a week. State board rules must establish qualifications individuals must meet to be issued a permit; these must include possession of a baccalaureate, master's, or doctoral degree in, or significant experience related to, the subject the individual is to teach.

Individuals receiving this permit must either teach on a volunteer basis, or through a contract with the individual or the individual's employer on terms and conditions agreed to between the board or school and the individual or the individual's employer. Individuals receiving this permit must also be directly supervised by a licensed employee of the district or STEM school until the district superintendent or the STEM school's chief administrative officer is satisfied that the nonlicensed individual has sufficient understanding of, and experience in, effective teaching methods to teach without supervision. Districts may not hire a nonlicensed individual under these provisions if such employment would displace an existing licensed employee of the district. ([R.C. § 3319.301](#))

Virginia: The state board of education must provide for the issuance of three-year licenses for individuals to teach high school CTE courses in specific subject areas for no more than 50% of the instructional day or year, on average. A three-year licensure to teach high school CTE must be issued to an individual who:

- Submits an application that includes a recommendation for the licensure from the local school board
- Meets certain basic conditions as prescribed by the Board
- Meets one of the following:
 - Holds at least a bachelor's degree from an accredited institution and has completed coursework in the CTE subject area in which the individual seeks to teach
 - Holds the required professional license in the CTE subject area in which the individual seeks to teach, where applicable

- Holds an industry certification credential, as that term is used in § 22.1-298.1 in the subject in which the individual seeks to teach.
- Has at least four years of full-time work experience or its equivalent in the specific CTE subject area in which the individual seeks to teach
- Has obtained qualifying scores on the communication and literacy professional teacher’s assessment prescribed by the Board.

The employing local board must assign a mentor to supervise an individual receiving such licensure during his/her first year of teaching.

Statute provides for renewal of a three-year license. (2016 [Chapter 651](#)).

Additional Resources *(not specific to STEM and CTE teacher shortages)*

- Julie Rowland Woods, Education Commission of the States, [Mitigating Teacher Shortages: Alternative Teacher Certification](#), May 2016
- Stephanie Aragon, Education Commission of the States, [Mitigating Teacher Shortages: Financial Incentives](#), May 2016

¹ Minimum 18 years old, files an affidavit with the state of Florida that the applicant subscribes to and will uphold the principles incorporated in the U.S. and Florida Constitutions, holds a bachelor’s or higher degree from an institution of higher learning, submits to a background check, is of good moral character, is competent and capable of performing the duties, functions, and responsibilities of an educator, demonstrates mastery of general knowledge and subject area knowledge. (West’s F.S.A. § 1012.56(2))