

# DRAFT Nevada STEM Endorsement Proposal Overview

## **Introduction:**

This document offers an overview of the proposed components of the Nevada STEM Endorsement and is intended to inform and support the Nevada STEM Endorsement work groups.

## **Purpose of the Nevada STEM Endorsement:**

The Nevada STEM Teacher Endorsement will expand students' access to high-quality STEM learning experiences to prepare them for in-demand STEM industry occupations. In addition, the endorsement program will increase Nevada teachers' capacity to develop and implement high-quality, experiential classroom pedagogy with embedded authentic feedback, collaborative practices, and application of STEM skills and knowledge.

To allow for individualization and choice, pathways are offered to educators who seek to earn the Nevada STEM Endorsement. The Nevada STEM Endorsement pathways are designed to ensure that practicing educators gain the knowledge and competencies needed (a) to deepen students' learning in STEM disciplines, (b) to promote authentic and relevant learning experiences for students, (c) to foster meaning-making for students to recognize natural connections between STEM disciplines, (d) to raise students' awareness and appreciation for the prevalence of STEM in society, and (e) to promote college and career awareness and readiness of STEM opportunities. Teachers earning the Nevada STEM Endorsement will demonstrate advanced qualifications to teach content through innovative and research-based methodologies.

## **Eligibility for the Nevada STEM Endorsement:**

The Nevada STEM Endorsement is intended for licensed Nevada educators and may be added to valid Nevada early childhood, elementary or special education teaching licenses.

## **Nevada Regulations:**

<https://www.leg.state.nv.us/nac/nac-391.html>

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## Prerequisite Requirements for Completing the Nevada STEM Endorsement:

Educators seeking to earn a Nevada STEM Endorsement must first hold a license for the grade level(s) of education in which the endorsement is offered; have two years of verified experience as a teacher in a Nevada public school; and complete one of the pathways below:

## Pathway Options for the Nevada STEM Endorsement:

1. College/University coursework;
2. National certification for STEM teaching and college coursework;
3. Verification of placement in a STEM position (strategist/specialist) for 3+ years and a passing score on the Elementary STEM Praxis exam; or
4. Complete a Department approved professional learning course sequence

## Section 1. NAC 391.XXX is hereby amended to read as follows:

The superintendent of public instruction may issue an endorsement in science, technology, engineering, and math (STEM) to an educator who has satisfied the requirements delineated in one the following pathway options:

## Requirements for the Nevada STEM Endorsement:

<b>Pathway Option 1:</b>	<ul style="list-style-type: none"><li>● Hold a current early childhood, elementary or special education teaching license; and</li><li>● Complete twelve college semester hours consisting of:<ul style="list-style-type: none"><li>○ Six credits: STEM education content and pedagogy;</li><li>○ Three credits: Examination and development of STEM instructional and assessment materials; and</li><li>○ Three credits: Methods course that incorporates application of learned content, instruction, and assessment, with reflection and analysis of curated STEM materials.</li></ul></li></ul>
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<b>Pathway Option 2:</b>	<ul style="list-style-type: none"><li>● Hold a current early childhood, elementary or special education teaching license;</li><li>● Complete a National Certification for STEM offered by the National Institute for STEM Education or its successor organization; and</li><li>● Complete six college semester hours consisting of:<ul style="list-style-type: none"><li>○ Three credits: Examination and development of STEM instructional and assessment materials; and</li><li>○ Three credits: Methods course that incorporates application of learned content, instruction, and assessment, with reflection and analysis of curated STEM materials.</li></ul></li></ul>
<b>Pathway Option 3:</b>	<ul style="list-style-type: none"><li>● Hold a current early childhood, elementary or special education teaching license;</li><li>● Currently in assignment as a STEM Specialist, School STEM Strategist, District STEM leader position, or the equivalent;</li><li>● Verification of position as a STEM Specialist, School STEM Strategist, District STEM leader, or equivalent for three years or more years in a Nevada public school; and</li><li>● Earn a passing score on the Elementary Praxis STEM examination.</li></ul>
<b>Pathway Option 4:</b>	<ul style="list-style-type: none"><li>● Hold a current early childhood, elementary or special education teaching license; and</li><li>● Complete a Department approved professional learning course sequence offered by the Department or Regional Professional Development Program in cooperation with a college or university consisting of:<ul style="list-style-type: none"><li>○ STEM Content (45 hours);</li><li>○ STEM Pedagogy (45 hours);</li><li>○ STEM Instructional and Assessment Resource Analysis and Creation (45 hours); and</li><li>○ STEM Application Practicum or microcredential (90 hours).</li></ul></li></ul>

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## Supplemental Information- States with STEM endorsements, certifications, or special licenses:

State	Requirements	Levels	Positions Requiring Endorsement	Legacy in option?	Teacher Benefits and/or Supports	Notes
Arizona-certificate	<p><b>Work Experience:</b> Verification of at least five years of work experience in science, technology, engineering, or mathematics. Applicants may submit a letter of verification on official letterhead from a Supervisor or Human Resources representative to verify employment. <b>-AND-</b></p> <p><b>Option A:</b> Degree in STEM area. A Bachelor's, Master's, or Doctoral degree and completion of twenty-four semester hours of coursework in an academic subject that is specific to science, technology, engineering, or mathematics from an accredited institution. Submit official transcripts documenting the required degree and coursework.</p> <p><b>OR Option B:</b> Postsecondary Teaching Experience. Verification of teaching experience for the last two consecutive years, and for a total of at least three years at one or more accredited postsecondary institutions in science, technology, engineering, or mathematics.</p>	6-12	Authorizes the holder to teach Science, Technology, Engineering, or Mathematics in Grades 6-12.	N/A		<a href="https://www.azed.gov/educator-certification/specialized-secondary-certificate-stem-6-12">https://www.azed.gov/educator-certification/specialized-secondary-certificate-stem-6-12</a>
Georgia endorsement	In Development					<a href="https://rules.sos.state.ga.us/Download_pdf.aspx?st=GASOS&amp;year=2023&amp;depart=Departments&amp;pdf=Department%20505%20PROFESSIONAL%20STANDARDS%20COMMISSION">https://rules.sos.state.ga.us/Download_pdf.aspx?st=GASOS&amp;year=2023&amp;depart=Departments&amp;pdf=Department%20505%20PROFESSIONAL%20STANDARDS%20COMMISSION</a>
Indiana-endorsement	Praxis for STEM in Elementary; Praxis exams for STEM content areas for 6-12	K-6, 5-12, 9-12	1. Elementary STEM 2. Middle and high school life science, chemistry, earth/space science, physics, physical science, computer science, technology education, and mathematics.		1. ETS Praxis exam vouchers to cover fees associated with adding a STEM endorsement and test preparation (up to \$500). 2. \$1,000 high need commitment stipend for each participant who adds a STEM	<a href="https://keepindianlearning.org/events/iste/m/">https://keepindianlearning.org/events/iste/m/</a>  <a href="https://docs.google.com/document/d/18loPCBO1I2F_nqrYm01WUBYoAqOVNlinE-6r3wDevM/edit?usp=sharing">https://docs.google.com/document/d/18loPCBO1I2F_nqrYm01WUBYoAqOVNlinE-6r3wDevM/edit?usp=sharing</a>  <a href="https://bit.ly/I-STEM-Tier-II">https://bit.ly/I-STEM-Tier-II</a>

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					<p>endorsement to their existing valid educator license and is hired or retained in an Indiana school district in a STEM teaching position.</p> <p>3. Ongoing mentoring and support.</p>	
lowa-endorsement	<p>1. K-8: Twelve semester hours of college-level science. Twelve semester hours of college-level math (or the completion of Calculus I) to include coursework in computer programming. Three semester hours of coursework in content or pedagogy of engineering and technological design. Six semester hours of required coursework in STEM curriculum and methods. STEM field experience of a minimum of 30 contact hours. Must already hold elementary endorsement.</p> <p>2. 5-8: Twelve 0semester hours of college-level science. Twelve semester hours of college-level math (or the completion of Calculus I) to include coursework in computer programming. Three semester hours of coursework in content or pedagogy of engineering and technological design. Six semester hours of required coursework in STEM curriculum and methods. STEM field experience of a minimum of 30 contact hours. Must already be the holder of a 5-12 science, mathematics, or industrial technology endorsement or 5-8 middle school mathematics or science endorsement.</p> <p>3. K-12 Specialist- a) Must have met the requirements for a standard Iowa teaching license and a teaching endorsement in mathematics, science, engineering, industrial technology, or agriculture. b) Hold a master’s degree in math, science, engineering or technology or another area with at least 12 hours of college-level science and at least 12 hours of college-level math (or completion of Calculus I) to include coursework in computer programming.</p>	K-8, 5-8, K-12 Specialists	<p>1. K-8 is authorized to teach science, mathematics, and integrated STEM courses.</p> <p>2. 5-8 is authorized to teach science, mathematics, and integrated STEM courses.</p> <p>3. K-12 Specialist- is authorized to serve as a STEM specialist in kindergarten and grades one through twelve.</p>	N/A	N/A	<p><a href="https://boee.iowa.gov/endorsements/endorsements-list?page=4">https://boee.iowa.gov/endorsements/endorsements-list?page=4</a></p>

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	<p>c) Three semester hours in content and pedagogy in engineering and technological design</p> <p>d) Nine semester hours of professional development in STEM curriculum and methods, STEM experiential learning, and Leadership in STEM.</p>					
Maryland-endorsement	<p>1. Twelve semester hours of post-baccalaureate credit or Department-approved Continuing Professional Development credits in PBL, engineering and design, application of scientific practices and content, application of mathematical practices and content, Technology literacy, collaboration and critical thinking skills.</p> <p>2. Three semester hours in leadership and providing PD.</p> <p>3. Three semester hours of practicum or a school-based internship of PK-6 and adult professional learning.</p>	PK-6	PK-6 STEM Instructional Leader	N/A	N/A	<p><a href="http://mdrules.elaws.us/comar/13a.12.02.29">http://mdrules.elaws.us/comar/13a.12.02.29</a></p> <p><a href="https://marylandpublicschools.org/about/Pages/DEE/Certification-Areas.aspx">https://marylandpublicschools.org/about/Pages/DEE/Certification-Areas.aspx</a></p>
North Dakota-endorsement	<p>Twelve hours of coursework in STEM education and verified through official transcripts. Coursework must be from an approved teacher education program. Field Experience of two days-must be documented through an official transcript and/or letter documenting the STEM business/industry and STEM classroom experiences.</p>	K-12		N/A	N/A	<p><a href="https://www.nd.gov/esp/sites/www/files/documents/SFN-59877-STEM-Endorsement-05-17.pdf">https://www.nd.gov/esp/sites/www/files/documents/SFN-59877-STEM-Endorsement-05-17.pdf</a></p>
Ohio- license	<p>DOE will issue the initial two-year provisional STEM license, at the request of an employing designated Ohio STEM school, with evidence of the following:</p> <p>1. Degree- must have a bachelor's degree in a field related to the subject area they will teach from an accredited college or university;</p> <p>2. Exam- must pass the content area exam for the requested subject area</p> <p>For advancement-</p> <p>1. Two years of teaching under the provisional STEM license in a designated Ohio STEM school; and</p> <p>2. A structured apprenticeship program through an educational service center or Chancellor approved teacher preparation program in partnership with the employing Ohio STEM school.</p>	K-12		Two-year provisional STEM licenses under Ohio law to applicants who meet qualifications and have been hired by a designated Ohio STEM school. Two-year provisional STEM licenses are issued for Computer Information Science, Integrated Mathematics, Integrated		<p><a href="https://education.ohio.gov/Topics/Teaching/Licensure/Audiences/2-Year-Provisional-STEM-License">https://education.ohio.gov/Topics/Teaching/Licensure/Audiences/2-Year-Provisional-STEM-License</a></p>

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				Science and Technology Education.		
Pennsylvania-endorsement	Twelve semester hours-endorsement is added to existing Level I or Level II certificates, but are not required to perform service in the endorsed areas.	PK-12	N/A	N/A	N/A	<a href="https://www.education.pa.gov/Educators/Certification/PAEducators/Pages/PACerts.aspx">https://www.education.pa.gov/Educators/Certification/PAEducators/Pages/PACerts.aspx</a>  <a href="https://www.education.pa.gov/Documents/Teachers-Administrators/Certification%20Preparation%20Programs/Specific%20Program%20Guidelines/Integrative%20Science,%20Technology,%20Engineering,%20Mathematics%20%28STEM%29%20Education%20Guidelines.pdf">https://www.education.pa.gov/Documents/Teachers-Administrators/Certification%20Preparation%20Programs/Specific%20Program%20Guidelines/Integrative%20Science,%20Technology,%20Engineering,%20Mathematics%20%28STEM%29%20Education%20Guidelines.pdf</a>
South Carolina-certification	Twelve semester hours: STEAM Instructional Design, STEAM Instructional Methods, STEAM Assessment, STEAM Implementation, and thirty practicum hours. Coursework may be waived and certification endorsement in STEAM education granted for completion of a comprehensive, extended sequence of professional learning approved by the SCDE.	PK-12	N/A	N/A	N/A	<a href="https://ed.sc.gov/educators/certification/certification-legislation-and-policy/certification-regulations/add-on-guidelines/">https://ed.sc.gov/educators/certification/certification-legislation-and-policy/certification-regulations/add-on-guidelines/</a>
Utah-endorsement	Educators seeking to earn an Elementary STEM Endorsement must first complete either an Elementary Science Endorsement or an Elementary Mathematics Endorsement. Plus, complete six courses in STEM for Teaching K-6 Science, STEM for Teaching K-6 Technology and Engineering, and STEM for Teaching K-6 Mathematics; OR complete the microcredential option (pilot phase).	K-6	N/A	N/A	Reimbursement for coursework (completed within one year)  Teachers receive monetary incentive upon completion  <a href="https://employee.provo.edu/wp-content/uploads/2021/09/STEM-Endorsement-Incentive-Program-FAQ.pdf">https://employee.provo.edu/wp-content/uploads/2021/09/STEM-Endorsement-Incentive-Program-FAQ.pdf</a>	<a href="https://www.schools.utah.gov/curr/stem?mid=900&amp;tid=2">https://www.schools.utah.gov/curr/stem?mid=900&amp;tid=2</a>

### Additional information on other states with STEM endorsements, licenses, certifications-

<https://docs.google.com/document/d/1mjbjKcVux5bF0KAoeUEy9uU6zI3IPKNeJbLM0fQTCg/edit?usp=sharing>