Apply to be a recommended STEM program by the Nevada STEM Advisory Council

In its State Strategic Plan for STEM, the Nevada STEM Advisory Council established priorities and goals to ensure that all of Nevada's students have access and opportunities to gain a high-quality STEM education. One of the key strategies recommended in the plan is to identify and fund evidence-based, high-quality formal and informal STEM practices and programs. To accomplish this strategy, the Governor's Office of Science, Innovation and Technology (OSIT) has partnered with STEMworks for the purpose of developing a Nevada-specific rubric to evaluate and identify high-quality STEM programs. STEMworks has developed a set of research and experience-based design principles for effective STEM programs and a rigorous independent evaluation process to provide guidance for measuring the quality of STEM programs.

OSIT and the Nevada STEM Advisory Council seek applications from STEM education programs that meet STEMworks' criteria for "accomplished" or "promising" programs. Selected programs will be included in the STEMworks database and the Nevada STEM Advisory Council's list of recommended STEM programs. This is **not** an application for funding. However, school districts in Nevada may apply for future STEM education funding from the Nevada Department of Education's College and Career Readiness grant to fund STEM programs on the Nevada STEM Advisory Council's list. Additionally, the Nevada Legislature, local school districts, and private philanthropy in Nevada may also in the future use the Nevada STEM Advisory Council's list to guide their STEM education investments.

Nevada has a unique landscape and diverse industries across cities and towns of vastly different size and composition. To qualify for the Nevada STEM Advisory Council's list of recommended STEM programs, programs must address the needs of all of Nevada's students. To be considered, programs must respond to Nevada-specific questions, including three required questions and one "additional priority" question.

Required: Please respond in detail, in 750 words or less, to the following THREE elements.			
Question	**Accomplished**	**Developing**	**Undeveloped**
<u>All Learners</u> To what degree does the program provide evidence qualifying its effectiveness in successfully engaging learners from underrepresented backgrounds in STEM? *Underrepresented backgrounds include girls, English Language Learners, racial and ethnic minorities, students in poverty, students from rural communities, and students with disabilities.	• External evaluation confirms the program's effectiveness in successfully engaging students from groups underrepresented in STEM. • The program demonstrates alignment of Nevada-specific demographics and the program's engagement strategies.	• The program references Nevada-specific demographics, but does not demonstrate alignment with the program's efforts to engage all learners.	• The program claims to be effective in successfully engaging learners from underrepresented backgrounds in STEM but provides no evidence to justify its claim.

Sample Evidence:

- External evaluation data
- Lesson plans with differentiated accommodations
- Demographic data
- Program description
- Mission/vision
- Student assessment data
- Outreach/marketing materials

Question	Accomplished	Developing	Undeveloped
Real-World Application To what degree do the program's learning goals and activities support student-driven explanations or development of solutions around anchoring phenomena, real-world contexts, or Nevada's industries?	• All learning goals and activities depend on participants explaining real-world phenomena or developing solutions to real-world problems using the practices from STEM education fields (as defined in the Nevada Academic Content Standards (NVACS)). • Phenomena and problem-solving drives the learning and directly relates to Nevada's industries.	• Some of the learning goals and activities center on students explaining real-world phenomena or developing solutions to real-world problems using the practices from STEM education fields (as defined in the NVACS). • Phenomena and some problem-solving drives the learning and correlates to the world of work, but is not specific to Nevada's industries.	• It is unclear how the program's learning goals and activities help students make deliberate connections between their learning and real-world phenomena, problems, and Nevada's industries. • Students are not required to explain phenomena or design solutions to problems.

Sample Evidence:

- Curriculum materials which may include objectives, lesson plans, overviews, pacing, and/or assessments referencing connection to Nevada or Nevada's industries
- Program or unit descriptions
- Documentation of partnerships with Nevada's industries, including flyers, sponsorships, letters of support, etc.

Question	Accomplished	Developing	Undeveloped
Interdisciplinary (degree and depth) To what degree does the program support learners in drawing upon and building connections within multiple domains of a discipline and among multiple disciplines? Integration refers to the strategic connections between fields and the leveraging of one to learn/understand the other.	• The program clearly articulates how it integrates non-STEM NVACS-aligned disciplines (writing/reading/social studies etc.) with at least one STEM discipline (all at grade level), or integrates more than one STEM NVACS-aligned discipline (all at grade level) so the student is leveraging STEM content to drive learning across all disciplines at the appropriate grade level.	• More than one NVACS-aligned STEM or non-STEM discipline is identified, but the program does not clearly specify how they are integrated.	• The program focuses on one NVACS-aligned STEM field and makes no attempt to engage learners in multiple disciplines.

Sample Evidence:

- Curriculum materials which may include objectives, lesson plans, overviews, pacing, and/or assessments
- Program or unit descriptions
- Standards alignments and crosswalks

Additional Priorities: Please respond in detail, in 750 words or less, to ONE of the following five elements.			
Question	**Accomplished**	**Developing**	**Undeveloped**
<u>Replicability across different districts</u> To what degree does the program utilize differentiated models of implementation to support replicability across Nevada's varying communities, districts, and regions?	• The program demonstrates potential for success in both Nevada's urban and rural areas by demonstrating overall successful implementation in demographically and geographically similar areas.	• The program describes potential for success in both Nevada's urban and rural areas, **and** describes successes and challenges of implementation in demographically and geographically similar areas.	• There is no effort to show how the project might be replicable to sites regardless of community size or location; one-size-fits-all. Project may be tied to a specific site or only a few sites due to unique resources, personnel, or other requirements.

Sample Evidence:

- Scalability plans or toolkit
- Landscape analysis
- Plan for site differentiation
- Analysis of potential challenges and opportunities in the Nevada landscape
- Letters of support from Nevada organizations, communities, districts, etc.
- Program alignment with current Nevada offerings

Question	Accomplished	Developing	Undeveloped
Cultural identity and student interest To what degree does the program value the cultural interests and identities* of Nevada's diverse student population by making them essential aspects of the contextualized learning? (*including but not limited to ethnicity, race, gender, age demographics)	• The program demonstrates a deep understanding of Nevada's populations including an understanding of, and values for cultural interests and identities OR demonstrates a deep understanding of the cultural values of the local community, area, region, and Nevada. • The program demonstrates how it collaborates with community-based partners and parents in order to leverage these interests and identities in the context of the learning.	• The program demonstrates a superficial understanding of the target participants or a superficial understanding of the cultural values of the local community, area, region, and Nevada. The program leverages these interests and identities in the context of the program learning. • It is unclear if collaboration with community-based partners or parents occurs.	• The program lacks an understanding of target participants or cultural values of the local community or lacks evidence of a strategy to leverage these interests and identities in the context of program learning.

Sample Evidence:

- Participant demographic data
- Program mission and vision
- Needs assessment data
- Curriculum examples highlighting inclusion of cultural interests and identities
- Nevada-specific demographic data reflected in the program materials
- Outreach/marketing materials
- Collaboration documentation, which may include outreach events, planning/vetting teams comprised on families and partners
- Nevada landscape analysis and research

Question	Accomplished	Developing	Undeveloped
Assessment To what degree does the program incorporate formative assessment strategies and tools, based on cognitive and/or cultural models, in addition to Data-Driven Decision Making (DDDM), to support students and teachers throughout the program?	• The program incorporates practice-driven formative assessment strategies and tools appropriate for the content and environment to facilitate all learners driving their own learning. • Assessments (formative and summative) are used to inform program leaders about current understanding (progress monitoring), possible feedback mechanisms to support conceptual growth, and expected outcomes. • Student motivation (including self-efficacy and outcome expectancy) is valued and supported within the assessment aspects of the program.	• The program incorporates formative assessments which may be appropriate for the content and environment but do not demonstrate a differentiation plan to include all learners in driving their own learning. • Assessments (formative and summative) are used to inform program leaders about current understanding (progress monitoring) but do not include a plan to use the data to drive instruction.	• It is unclear how assessment strategies are used in the program.

Sample Evidence:

- Assessment plans, which may include pacing, samples, performance indicators, plans for differentiation based on assessment results, etc.
- Student assessment data
- Sample assessments
- Goal setting templates/processes included in the program
- Strategies to build student motivation

Question	Accomplished	Developing	Undeveloped
Place Based Instruction To what degree does the program tie to local Nevada places and situations?	• The program's instruction relies on local Nevada place-based materials, data, phenomena, history, positions, or issues.	• The program's instruction references local Nevada place-based materials, data, phenomena, history, position, or issues but only does so in a superficial manner or the references are not a significant part of the program.	• The program does not address local Nevada places or situations.

Sample Evidence:

- Curriculum materials, which may include objectives, lesson plans, overviews, pacing, and/or assessments, that reference Nevada
- Mission/vision statements
- Program description
- Research of Nevada used to develop the program

Question	Accomplished	Developing	Undeveloped
Professional Development To what extent does the professional development associated with the program: • incorporate relevant STEM teaching and learning research? • include Nevada-specific local content? • include a strong track record of developing state or community-specific content or partnerships?	• The program is effectively informed and designed around current STEM education literature: a. sustained goal-focused support scaffolds learning for students b. conceptual understanding is developed over time and connected to other disciplines c. learning is directly connected to practice d. best practices are modeled and explicitly described in context e. learning is at participant level (age appropriate for the participant) and rigorous f. professional development is sustained with ongoing, scheduled support including stakeholder and educator engagement and collaboration • The program includes professional development that provides a real-world context that relates to Nevada communities and industries. • The program develops and tracks strategic and collaborative partnerships with local professional development entities, school districts, informal	• The program is informed and designed around current STEM education literature in some of the following aspects: a. sustained goal-focused support scaffolds learning for students b. conceptual understanding is developed over time and connected to other disciplines c. learning is directly connected to practice d. best practices are modeled and explicitly described in context e. learning is at participant level (age appropriate for the participant) and rigorous f. professional development is available upon request • The program includes professional development that provides a real-world context but does not relate to Nevada communities and industries. • The program insufficiently develops and tracks strategic and collaborative partnerships with local professional development entities, school districts, informal education groups, etc.	• It is unclear if the program has been informed and designed around current STEM education literature. • The program approaches participant learning from a direct instruction model and does not address pedagogical skills and content knowledge. Additional support for teachers beyond initial training is not addressed. • There is a lack of community-specific content or partnerships.

	education groups, etc.; or has a strong plan to do so in Nevada.		

Sample Evidence:

- Professional development plan which may include partnership documentation with teachers, schools, districts or agencies, agendas, frameworks, schedules, outcomes, etc.
- Current and reputable teaching and learning research references
- Identification of best practices within the program or curriculum materials, which may include lesson plans, plans for differentiation, plans for progress monitoring, etc.
- Real-world situations or problems explicitly included in the curriculum