VPS **STEM**
Course Guidance and Certificate Renewal

STEM Criteria – for clock hour approval:

Approving STEM Clock Hours
Approved providers may offer STEM clock hours and are able to independently vet each offering to ensure the course meets the intent of the STEM clock hour requirement. STEM clock hours are to be offered on a case-by-case basis provided the course qualifies **by meeting the Criteria AND Guiding Questions.**

Criteria:
1. The intent of the RCW is to ensure students have exposure to **authentic STEM integration experiences which align to state learning standards** including information about STEM-related career choices. The intent is for educators to incorporate the learning from the STEM activity within their professional practice such as a classroom or professional development opportunity (PLC, staff meeting, district level workshop, etc.).
2. The educator must participate in or demonstrate implementation of a STEM activity. **The learning or activity must demonstrate authentic integration of science, technology, engineering and math, incorporating at least 2 of the 4 STEM elements. Only one element out the STEM learning experience is not considered an authentic STEM experience.**

Guiding Questions:
Providers of STEM-related continuing education should design workshops / course offerings to ensure educators will meet the renewal requirement by answering "YES" to all of the following questions.
1. Will the STEM activity have an impact on STEM experiences for students? **(see above Criteria)**
2. Does the STEM activity provide examples or resources to use with students or with other educators?
3. Does the STEM activity provide examples or resources about STEM-related career choices to use with students?

What is STEM Literacy?

STEM literacy is the ability to identify, apply and integrate concepts from science, technology, engineering, and mathematics to understand complex problems and to innovate to solve them.
STEM literacy is achieved when a student is able to apply his or her understanding of how the world works within and across the four interrelated STEM disciplines to improve the social, economic, and environmental conditions of their local and global community.

- **Scientific Literacy:** Scientific literacy is the ability to use knowledge in physics, chemistry, biology, and earth/space science to understand the natural world and to participate in decisions that affect it.
- **Technological Literacy:** Technological literacy is the ability to use new technologies, understand how new technologies are developed, and have skills to analyze how new technologies affect us, our nation, and the world.
- **Engineering Literacy:** Engineering literacy is the ability to use the systematic and creative application of scientific and mathematic principles to practical ends, such as the design, manufacture, and operation of efficient and economical structures, machines, processes, and systems.
- **Mathematical Literacy:** Mathematical literacy is the ability to analyze, reason, and communicate ideas effectively through posing, formulating, solving, and interpreting solutions to mathematical problems in a variety of situations.

STEM Requirement for Certificate Renewal

STEM certificate renewal: Beginning on September 1, 2019, renewal applications for residency, professional, initial, and continuing teacher and CTE certificates must document completion of at least 15 clock hours, or at least one goal from an annual professional growth plan (PGP), with an emphasis on STEM integration to meet this renewal requirement.

> The requirement applies to the following endorsement areas: Elementary education; Early childhood education; Middle level mathematics and science; Secondary mathematics; Secondary science; The designated sciences; and Career and Technical Education.