

STATE BOARD OF EDUCATION – ADMINISTRATIVE RULE SUMMARY

Title/OAR #: Connecting to the World of Work – STEM, STEAM & CTE Grants
OAR 581-017-0301 to 581-017-0333

Date: June 19, 2014

Staff/Office: Jamie Ramage, Office of Learning; Mark Lewis, OEIB; and Cindy Hunt, Deputy Superintendent's Office

New Rule **Amend Existing Rule** **Repeal Rule**

Hearing Date: February 27, 2014 **Hearings Officer Report Attached**

Prompted by: **State law changes** **Federal law changes** **Other**

Action Requested:

First Reading/Second Reading **Adoption** **Adoption/Consent Agenda**

PROPOSED/AMENDED RULE SUMMARY:

The proposed rules implement the provisions of House Bill 3232 by establishing Regional STEM Hubs and STEM & CTE Programs and Activities Grants.

BACKGROUND:

In 2013, under the leadership of Governor John Kitzhaber, the Oregon Education Investment Board proposed key strategic investments to support Oregon's attainment of 40/40/20.

HB 3232 directs the Oregon Education Investment Board (OEIB) to design, implement and report on programs that make strategic investments in three areas:

- Oregon Early Reading Program
- Guidance and Support for Post-Secondary Aspirations Program
- Connecting to the World of Work Program

The OEIB is charged with developing timelines, performance measures and other requirements related to the accumulation and evaluation of data collected in relation to the programs. The State Board of Education is directed to adopt rules necessary for the Department of Education to administer the programs within the strategic investments. The rules must be consistent with the actions taken by the OEIB.

The purposes of the Connecting to the World of Work Program are to:

- a) Increase students' proficiency, interest, and attainment in science, technology, engineering and mathematics (STEM); and
- b) Increase the number of students who earn a postsecondary degree requiring proficiency in science, technology, engineering or mathematics.

To accomplish the purposes of the Connecting to the World of Work Program, moneys shall be distributed for strategic investments that advance at least one of the following missions:

- a) Collaborating with other public entities to develop and implement long-term strategies that advance the State's educational goals relating to STEM education.

- b) Providing opportunities for students, with a specific focus on historically underserved and underrepresented, to fully engage in STEM, STEAM and CTE education through formal and informal settings.
- c) Deliver effective STEAM and CTE instruction that promotes deeper understanding of real-world complexities through programs and activities that provide authentic problem-based learning opportunities.

Under the Connecting to the World of Work Program a strategic investment of \$5 million (\$2.5 million for Regional STEM Hubs and \$2.5 million for STEAM & CTE Programs and Activities) was designated by the Legislature and the Department of Education for the purpose of distributing moneys to school districts, postsecondary institutions and student-focused nonprofit organizations to create or expand Regional STEM Hubs for the advancement of STEM education and providing science, technology, engineering, art and mathematics (STEAM) & career and technical education (CTE) programs and/or activities opportunities for All students in both formal and informal educational settings.

The rules establish new grant programs as methods to specifically address the direction of HB 3232 to increase student’ proficiency in science, technology, engineering and mathematics and to connect students to the world of work. In addition, doubling the percentage of students in 4th and 8th grades who are proficient or advanced in mathematics & science and doubling the number of students who earn a postsecondary degree requiring proficiency in science, technology, engineering or mathematics are identified as strategic investments aimed at improving student outcomes. This funding stream will support STEM, STEAM and CTE focused organizations to closing the achievement gap and raising student achievement. The awards will be distributed following the review of detailed program proposals submitted through the RFP process.

The Regional STEM Hub Grant program is a competitive grant and will award between \$100,000 to \$250,000 to those established partnerships that have identified specific criteria to create or expand collaborative STEM education goals. In addition, applicants need to demonstrate support, commitment and readiness to provide opportunities to the historically underserved and underrepresented populations.

The STEAM & CTE Programs and Activities Grant program is a competitive grant and will award between \$10,000 to \$250,000 to applicants who identify how the funds will be used to achieve STEM education goals. In addition, applicants need to demonstrate support, commitment and readiness to provide opportunities to the historically underserved and underrepresented populations.

CHANGED SINCE LAST BOARD MEETING?

- N/A; first read—hasn’t been before board
- No; the board previously adopted these rules as temporary rules
- Yes – As follows:

Fiscal Impact:

There will also be some cost to the Department of Education to administer the grant program. However, the legislature designated new positions and funding to cover these costs and other costs associated with administering HB3232.

STAFF RECOMMENDATION:

- Adopt administrative rule at this meeting
- Adopt administrative rule at next meeting
- No recommendation at this time (rarely used)

Connecting to the World of Work STEM, STEAM and CTE

581-017-0301

Definitions

The following definitions apply to 581-017-0300 TO 581-017-0332:

- (1) “Achievement Gap” means the gap in achievement (state test scores in science and mathematics as well as postsecondary degree attainment in STEM) that often exists between students who are economically disadvantaged, students learning English as a second language, African American, Hispanic or Native American compared to their peers.
- (2) “Authentic Problem-Based Learning” means using real world questions, problems, and tasks—often drawn from local community issues and industries—as the focus to drive the learning experiences, deepen understanding, and developing rich contextual connections across a variety of STEM and non-STEM disciplines.
- (3) “Career and Technical Education (CTE)” is a comprehensive educational program for students based on industry needs. CTE includes coursework in areas such as health care, engineering, and computer science.
- (4) “Community Engagement” means a broad collaboration and participation between multiple sectors of the community for the mutually beneficial exchange of knowledge and resources to identify local needs and contribute to larger conversations on visioning planning which may include, but not limited to parent groups and advocacy groups, industry and STEM agencies, economic and workforce groups, student input, and educators.
- (5) “Effective STEM Instruction” means the use of evidence-based practices that support interconnected, relevant STEM instruction as stated in definition number one.
- (6) “Effective STEM Leadership” means identifying schools, school districts, postsecondary institutions, business & industry, student-focused nonprofits and community leadership to support implementing and improving STEM teaching and learning in addition to creating a culture that fosters STEM learning with evidence-based resources. Effective STEM leadership develops an understanding of what effective and interconnected STEM education looks like in the classroom and supports the development of learning environments that empower educators to implement innovative STEM education approaches.
- (7) “Effective STEM Learning Environments” means supporting student interaction with STEM education during formal and informal settings in ways that promote deeper understanding of real-world complex concepts. Such learning environments need to engage all students in solving complex problems, using highly interactive learning opportunities that create new opportunities for STEM learning across the core curriculum.
- (8) “Equity Lens” refers to the commitment and principles adopted by the Oregon Education Investment Board to address inequities of access, opportunity, interest, and attainment for underserved and underrepresented populations in all current and future strategic investments.
- (9) “Postsecondary Institution” means a:
 - (a) A community college operated under ORS chapter 341.
 - (b) The following public universities within the Oregon University System:
 - (A) University of Oregon.
 - (B) Oregon State University.
 - (C) Portland State University.
 - (D) Oregon Institute of Technology.

- (E) Western Oregon University.
- (F) Southern Oregon University.
- (G) Eastern Oregon University.
- (c) Oregon Health and Science University.
- (d) An Oregon-based, generally accredited, not-for-profit institution of higher education.
- (10) “Regional STEM Hub” means a commitment of a group of key stakeholders from different sectors such as, but not limited to school districts, informal education providers, postsecondary institutions, business & industry, student-focused nonprofits, students, families, community members and policy makers to advance state and local educational goals related to science, technology, engineering, mathematics and career & technical education (CTE).
- (11) “Statewide STEM Network” means a supportive collaboration between and across Regional STEM Hubs to share knowledge, expertise, insights, and leadership to assist other communities in their efforts to create similar STEM partnerships.
- (12) “STEM Education” means an approach to teaching and lifelong learning that emphasizes the natural interconnectedness of the four separate STEM disciplines. Developing and deepening content knowledge and skills in science and mathematics is the foundation of STEM teaching and learning. The natural connections among science, mathematics and STEM are made explicit through collaboration between educators resulting in real and appropriate context built into instruction, curriculum, and assessment. The common element of problem solving is emphasized across all STEM disciplines allowing students to discover, explore, and apply critical thinking skills as they learn.
- (13) “STEM Practitioners” refers to individuals engaged in STEM-related professions such as but not limited to, natural resources management, high-tech manufacturing and product development, information technology, industrial design, health sciences, software, scientific research, engineering, data analytics, etc.
- (14) “Student-Focused Nonprofits” means an organization that meets all of the following requirements:
- (a) Is established as a nonprofit organization under the laws of Oregon;
 - (b) Qualifies as an exempt organization under section 501(c)(3) of the Internal Revenue Code as defined in ORS 314.011; and
 - (c) Is focused on providing services to students who’s goals or mission are focused on impacting and improving outcomes in STEM education.
- (15) “Underserved Students” are students whom systems have placed at risk because of their race, ethnicity, English language proficiency, socioeconomic status, gender, sexual orientation, differently abled, or geographic location.
- (16) “Underrepresented Students” in STEM are from demographic groups who’s representation in STEM fields and industries does not mirror regional and national focus populations specifically, women, African American, Native American, Hispanic and Pacific Islander students which systems have provided insufficient or inadequate balance of opportunity.
- Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)
- Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

**(Oregon Regional STEM [Science, Technology, Engineering and Mathematics] Hub Grant)
581-017-0306
Establishment of Regional STEM Hubs**

- (1) The Regional STEM Hub Grant is established as part of the Connecting to the World of Work Program.
 - (2) The purposes of these Regional STEM Hubs includes, but is not limited to:
 - (a) Engage school districts, post-secondary institutions, student-focused nonprofit organizations, business and industry around common outcomes related to increasing students' proficiency, interest, and attainment in science, technology, engineering and mathematics along with career and technical education.
 - (b) Align STEM program activities and leverage State and local resources, both financial and human, around common student outcomes to advance the State 40/40/20 goals.
 - (c) Address ongoing access, opportunity, interest, and attainment gaps for underserved and underrepresented students in STEM consistent with the Equity Lens.
 - (d) Engage local communities to elevate the importance of STEM to the prosperity of individuals, and the local and state economy.
 - (e) Promote effective instructional practices by providing professional learning opportunities and to support educators in ways that are consistent with the implementation of the Common Core State Standards and Oregon Science Standards.
 - (f) Provide age-appropriate career exploration opportunities in STEM for students along the education continuum including career guidance, tours, and internships.
 - (g) Expand effective STEM learning experiences for students both in and out of school.
 - (h) Share knowledge, expertise, insights, and leadership to assist other communities in their efforts to create similar STEM partnerships.
 - (i) Foster greater coherency across institutions to smooth student transitions and support services along education and career pathways.
 - (j) Diminish the sense of academic isolation and silos, both locally and statewide.
 - (k) Increase interactions of STEM practitioners with students and educators.
- Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)
 Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0309

Eligibility of Regional STEM Hubs

The Oregon Department of Education shall allocate funds for Regional STEM Hubs based on the following criteria:

- (1) The following entities shall be eligible to be the fiscal agent for the Regional STEM Hub Grant:
 - (a) School districts,
 - (b) Student-focused nonprofit organizations, or
 - (c) Postsecondary institutions for the purpose of supporting STEM & CTE education.
- (2) A Regional STEM Hub must be established by a school district, postsecondary institutions or student-focused nonprofit and is required to include the following additional partners at a minimum:
 - (a) A School District,
 - (b) A Postsecondary Education Partner,
 - (c) A Student-focused nonprofit; and
 - (d) An Industry, Business or STEM focused Community Partner.
- (3) A Regional STEM Hub must be able to demonstrate that the Hub has the following five key elements:

- (a) A common agenda;
- (b) Shared measurement systems;
- (c) Mutually reinforcing activities;
- (d) Continuous communication; and
- (e) Backbone support organizations.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0312

Criteria of Regional STEM Hubs Awards

(1) The Oregon Department of Education shall establish a request for proposal solicitation and approval process to be conducted each biennium for which the Regional STEM Hub grant funds are available. All proposals must comply with the requirements of section 1, Chapter 661, Oregon Law 2013 (Enrolled House Bill 3232) and rules adopted to implement that section.

(2) The Oregon Department of Education may only award grants to Regional STEM Hubs which meet the minimum criteria by having a record of success in or clearly established plans for addressing the following:

(a) Each eligible recipient must establish a partnership for a Regional STEM Hub consisting of a school district, post-secondary, student-focused nonprofit, and industry, business.

(b) In creating a Regional STEM Hub, network leadership that has a plan to demonstrate the needs of ALL students and incorporate the principles of the Equity Lens adopted by the Oregon Education Investment Board.

(c) Regional STEM Hubs must identify a common agenda that contributes to the achievement of STEM to the State 40/40/20 goal and the STEM-related goals, which states by 2025 to:

(A) Double the percentage of students in 4th and 8th grades who are proficient or advanced in mathematics and science.

(B) Double the number of students who earn a post-secondary degree requiring proficiency in science, technology, engineering or mathematics.

(d) Regional STEM Hub Partnerships will be expected to:

(A) Participate in the development and dissemination of a minimum set of shared measurements and reporting of progress as determined by Oregon Department of Education in collaboration with the Oregon Education Investment Board

(B) Engage in mutually reinforcing activities for improving STEM/CTE education that will focus on instructional systems, communication, student support systems, human resource systems, and governance

(C) Engage in continuous communication both within and between Regional STEM Hubs

(D) Establish a backbone support organization to manage and support the Regional STEM Hub Partnership by serving the roles of project manager, data manager, communications hub and professional development facilitators.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0315

Implementation of Grant Funding of Regional STEM Hubs

(1) The Oregon Department of Education shall allocate funds to support expanding and newly established Regional STEM Hubs.

(2) Each grantee may receive funds between \$100,000 to 750,000 which shall be distributed as followed:

(a) Phase 1- Initial funding will be no more than 10 percent or \$25,000, whichever is higher, of the grant awarded amount.

(b) Phase 2- Full funding will be released up to the awarded amount within six months of the date of the initial funding if the Oregon Department of Education, in collaboration with the Chief Education Officer or their STEM designee, determines that the grantee has established evidence of readiness.

(c) Evidence of readiness will consist of a business plan addressing the following:

(A) Formalized partnership agreements in place with commitments of human and financial resources.

(B) Agreed upon goals and common outcomes related to student, teacher and community needs, with particular attention to closing the achievement gap and furthering 40/40/20.

(C) Needs analysis related to student, teacher, and community challenges.

(D) Community profile of STEM-related programs, initiatives, and resources.

(E) Program implementation plan to address goals.

(F) Demonstrated leadership and capacity to implement grant.

(G) Evaluation plan to identify records of success and/or challenges.

(H) Plan for sustaining partnership and activities beyond the funding period.

(I) Commitment to participating and supporting the statewide STEM Network.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0318

Reporting of Regional STEM Hubs

The Department of Education shall develop partnership-reporting requirements for allocation of funds for implementation of Regional STEM Hubs as required by the Oregon Education Investment Board.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

(Science Technology, Engineering, Art and Mathematics [STEAM] & Career and Technical Education [CTE] Programs and Activities Grant)

581-017-0321

Establishment of STEAM & CTE Programs and Activities

(1) The STEAM & CTE Program and Activities Grant is established as part of the Connecting to the World of Work Program.

(2) The purpose of the STEAM & CTE Programs and Activities Grant is to:

(a) Engage school districts, public schools, post-secondary institutions, and student-focused nonprofit organizations to implement programs and activities that increase learning opportunities focused on Science, Technology, Engineering, Art-related industries and Mathematics (STEAM) and Career and Technical Education (CTE) to serve Oregon students.

(b) Address ongoing access, opportunity, interest and attainment gaps for underserved and underrepresented students in STEAM and CTE consistent with the Equity Lens and specifically

from demographic groups who's representation in STEAM industries fields and industries does not mirror regional and national focus populations, especially women, African American, Native American, Hispanic and Pacific Islander students for which current programs have provided insufficient or inadequate balance of opportunity.

(c) Expand effective STEAM learning environments in both in-school and out-of-school by implementing innovative programs and activities to improve, enhance and enrich students' problem-solving capabilities that foster 21st century STEAM skills.

(d) Promote more effective STEAM and CTE instructional practices consistent with Common Core State Standards, Oregon State Science Standards and Oregon State Arts Standards.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0324

Eligibility of STEAM and CTE Programs and Activities

The Oregon Department of Education shall allocate funds for the STEAM and CTE program and activities grant. The following entities are able to apply and shall be eligible as the fiscal agent for the STEAM and CTE Implementation Activities and Program Grant:

- (1) School districts;
- (2) Public schools;
- (3) Student-focused nonprofit organizations; or
- (4) Post-secondary institutions.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0327

Criteria of STEAM & CTE Programs and Activities

(1) The Oregon Department of Education shall establish a request for proposal solicitation and approval process to be conducted each biennium for which the STEAM and CTE Program and Activities grant funds are available. All proposals must comply with the requirements of section 1, Chapter 661, Oregon Law 2013 (Enrolled House Bill 3232) and rules adopted to implement that section.

(2) Eligible school districts, public schools, student-focused nonprofit organizations, and post-secondary institutions will focus on STEAM education with a specific agenda that demonstrates a record of success or clearly established plans for addressing the following:

(a) Closing the achievement gap for underserved students and those underrepresented in STEAM and CTE fields with innovative approaches.

(b) Support effective implementation of the Common Core State Standards, the Oregon State Science Standards and the Oregon State Arts Standards.

(c) Successfully move students along a P-20 STEAM workforce pathway.

(d) Engage All students in meaningful, authentic problem-based learning that will support the Oregon's 40-40-20 goal.

(3) Eligible school districts, public schools, student-focused nonprofit organizations and post-secondary institutions must have a comprehensive system for measuring students' quantitative and qualitative outcomes, provide documented data and ensure that the resources received will be used for STEAM and CTE program and activity implementation.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0330

Implementation of Grant Funding of STEAM & CTE Programs and Activities

(1) The Oregon Department of Education shall allocate funds to support in-school and out-of-school STEAM and CTE programs and activities.

(2) Each grantee may receive funds between \$10,000 and \$250,000 for use during the 2013-2015 biennium.

(3) The Department of Education will award STEAM and CTE Programs and Activities Grants for the biennium distributed as follows:

(a) The Oregon Department of Education shall establish a request for proposal solicitation and approval process to be conducted for the STEAM and CTE Programs and Activities funds. All proposals will comply with the requirement of section 4, chapter 661, Oregon Laws 2013 (enrolled House Bill 3232) and rules adopted to implement that section.

(b) The Department shall give priority to proposals that meet the minimum criteria and clearly demonstrates how the grant funds will be used to address the following:

(A) Establish how underserved and underrepresented students will be engaged and have increased learning opportunities;

(B) Support new or expand STEAM & CTE programs and activities;

(C) Demonstrate a long-term sustainability plan;

(D) Collaborate with local business and industry partners or Regional STEM Hubs

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

581-017-0333

Reporting of STEAM and CTE Programs and Activities

The Department of Education shall develop partnership-reporting requirements for allocation of funds for implementation of STEAM and CTE Programs and Activities as required by the Oregon Investment Board.

Stat. Auth.: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)

Stat. Implemented: Section 4, chapter 661, Oregon Laws 2013 (Enrolled House Bill 3232)



ROB S. SAXTON

Deputy Superintendent of Public Instruction

BEFORE THE OREGON DEPARTMENT OF EDUCATION

RULE HEARING: OAR 581-017-0300 to 581-017-0332
Connecting to the World of Work

HEARING OFFICER'S REPORT

The Department held a public hearing on February 27, 2014, to receive public comment on the proposed rule amendments. Notice of hearing was published in a timely manner in the Secretary of State's bulletin and was sent to interested parties and persons who requested notice pursuant to ORS 183.335 (7). The hearing was held at the Department's offices in Salem, Oregon before Emily Nazarov, Hearing Officer.

There was no testimony.

Respectfully submitted this 27th day of February, 2014

Emily Nazarov
Hearing Officer