



P13842
STEM Educational Leadership
Certificate (Certificate)

- The queue for this request is:
- Department Head/Program Coordinator
 - Division Chair
 - Division Curriculum/Graduate Chair
 - Graduate Committee
 - Faculty Senate
 - Dean (COE)
 - Provost
 - President
 - External

New
Requestor: Adele Schepige
Submitted: 2021-02-17 12:03:41
Submitting as: Faculty Member or APA

Request for a: Program
Level Graduate
Type of Request: New (course, program, focus/concentration, or temporary course)
Will this be offered within an existing division or department? Yes
Type of program Certificate
Division Education and Leadership
Department/Program Master of Science in Education
Is this curricular change driven by assessment data you have collected? No
Summary/Rationale for proposal

The MEd program already includes STEM Education as a major option. This proposal is to offer a standalone certificate in STEM Educational Leadership. By offering a standalone certificate the MEd program could attract educators who do not want or need an MEd but are looking for opportunities to advance or change their career trajectory in STEM fields. It might also bring students in to complete the MEd STEM Education once they know that by completing the certificate, they completed a significant portion of the MEd. It is open to anyone who wants to acquire knowledge of state-of-the art innovative STEM education approaches that will help to facilitate effective and deep teaching and learning of STEM disciplines.

Oregon is divided into a network of regional STEM hubs. Each hub network is a regional collective impact of partnerships that bring together local leaders and programs from K-12, post-secondary, out-of-school programs, business & industry, workforce, economic development, civic leaders, community-based organizations, government agencies, STEM-rich institutions and families. Professionals engaged in STEM should find a STEM Education Leadership certificate attractive.

There are a variety of STEM certificates available across the USA. There is no consensus on what needs to be included in a STEM certificate. This certificate is different because it focuses on leadership in STEM education. There are no specific STEM Education Leadership certificates offered in Oregon and not many elsewhere either.

Is this a stand-alone certificate? Yes
If the certificate is part of one or more minors, please indicate which ones
Anticipated start date Fall 2021
Where will the program be delivered? WOU Campus (in-person or online)
How will the courses be offered? Online asynchronous
Proposed Classification of Instructional Programs (CIP) number. 13.1213
Title of new program, requirement, focus, or concentration STEM Educational Leadership Certificate
Mission, Learning Outcomes, Etc.

Mission:

Support the development of leaders in STEM education by promoting in-depth understanding of current STEM related standards, the need for access and equitable opportunities in STEM for all students, and instructional practices with a particular focus on research and evidence-based practices. Provides opportunities and experiences to gain advanced expertise and skills to be better equipped for greater effectiveness in their roles as leaders of STEM in educational settings. Prepare educators to take their place at the table as a STEM educational leader and advocate.

Learning Outcomes:

1. Deepen foundational knowledge of STEM policies and STEM pedagogical content knowledge expertise.
2. Develop STEM leaders who create, support and advocate for environments for STEM learning focusing on equity and opportunities for all.

3. Improve ability to use best practices in STEM professional development to enhance coaching and facilitation skills, and design innovative professional learning opportunities in STEM.

4. Exemplify professional leadership dispositions and reflective practice while contributing to the field of STEM education.

Description

The STEM Educational Leadership Certificate is designed to promote the continued development and professional growth of prospective STEM education leaders. This certificate program is standalone or can be completed as part of the MEd STEM Education program.

Core Courses (18 credits)

ED 609 Practicum Credits: 3

ED 637 Inquiry into Pedagogy Credits: 3

ED 678 STEM Education for ALL Credits: 3

ED 690 STEM Education Leadership Credits: 3

STEM Education Electives Credits: 6. Selection in consultation with STEM education advisor.

Catalog ID:

Program Outcomes

Learning Outcome

Alignment to University Learning Outcomes

Develop STEM leaders who create, support and advocate for environments for STEM learning focusing on equity and opportunities for all. (PLO3/GLO 3)

Engaging Diverse Perspectives

Improve ability to use best practices in STEM professional development to enhance coaching and facilitation skills, and design innovative professional learning opportunities in STEM. (GLO 2)

Exemplify professional leadership dispositions and reflective practice while contributing to the field of STEM education. (PLO4/GLO 3)

Deepen foundational knowledge of STEM policies and STEM pedagogical content knowledge expertise. (PLO1/GLO 1)

Specialized Knowledge

Targeted Professions

Targeted Professions: K-12 teachers and administrators, curriculum developers, instructional leaders, policymakers, and a wide variety of non-formal and informal learning specialists.

List closely related programs at WOU or other Oregon colleges and universities and the way in which this program complements other similar programs in other Oregon institutions and other related programs at WOU.

WOU MEd STEM Education - with advising it is possible for the STEM Educational Leadership Certificate to lead to an MEd STEM Education degree.

Southern Oregon University has an MEd with a concentration in Curriculum and Instruction in STEM Education but does not have a STEM leadership certificate.

Portland State University has a general Teacher Leadership certificate program.

Programs affected/consulted

It is likely some certificate students will want to take some of the M (math) classes for electives.

The EMS program coordinators- Dr. Rachel Harrington and Dr. Laurie Burton were consulted (Zoom, phone Feb 2021). They have a list of the Elementary Mathematics Specialization courses ready to be inserted into the STEM education electives advising guide.

Dr. David Foster is already aware of the OL 614 Leading for Creativity an Innovation being used as an elective for MEd STEM Education because we communicated (12/10/20) about that for winter term 2021. 3-4 MEd STEM Education students are enrolled OL 614 this winter already.

Briefly describe how the proposed program aligns with WOU's strategic priorities

The STEM Education Leadership certificate aligns with WOU strategic priorities

1. Academic program initiatives.

4.1 Promote academic array that provides distinctive, high-quality programs.

The STEM Education Leadership Certificate is unique. There are no graduate STEM education certificates in Oregon and no STEM Education Leadership certificates available in Oregon.

5. Identify and support activities, programs and practices that promote excellence in all academic programs.

5.2 Create opportunities for all graduate programs to include high-impact activities that support attainment of graduate learning outcomes.

The STEM Educational Leadership Certificate has multiple opportunities for high impact activities.

- The program offers communities of practice because although it is not a cohort model, all participating graduate students are pursuing a STEM Educational Leadership certificate.
- Graduate Writing is writing intensive and frequent, using reflection and academic writing
- Collaborative projects will be offered through an action learning model for projects and assignments.
- Diversity and equity are not only included through a required course but is embedded in assignments in other courses too.
- Experiential learning occurs in the STEM leadership course and practicum.

Briefly describe how the proposed program meets regional or statewide needs and enhances the state's capacity to improve educational attainment in the region and state

In 2016 Oregon created an Oregon STEM Plan (https://www.oregon.gov/highered/institutions-programs/workforce/Documents/STEM/STEM-Education-Plan-Final_CEdO_Nov_2016.pdf)

that has four goals that align with STEM Education leadership: Goal #1 Inspiring and Empowering Students, Goal #2 Ensuring Equitable Opportunities, Goal #3 Supporting Educator Effectiveness, and Goal #4 Creating a Sustainable System. Goal #3 specifically states that "teachers must be supported by strong instructional leaders who understand the benefits of STEM education beyond content knowledge." The Oregon STEM Plan calls for increasing the pool of qualified STEM educators and STEM education leaders. STEM education leaders are needed in school districts, in Oregon STEM Hubs, and informal STEM education at sites like museums, agencies, nature centers, zoos, outdoor schools, and more. It also supports the US government issued a STEM Education Strategic Plan (2018) that focuses on ensuring all Americans have access to quality education in science, technology, engineering and math (STEM).

What is the plan to recruit students to this proposed new program? Have you established a marketing plan to promote this new program and informed MarCom? Please briefly describe the plan.

A starting point: I have communicated with Marion Barnes in Marcom. I suggested the following places to market the certificate and she agreed that sending a news release to these are good places to start. Also, a digital flier could be designed and sent to people who are interested and use the same one to attract people who are new to the concept.

Oregon has STEM Hubs

<https://stemoregon.org/regional-stem-hubs/>

and the Oregon Science Teachers Association (can also look to PNW science teacher and STEM organizations)

<https://www.oregonscience.org/>

and since it will be online asynchronous there is the NSTA.

<https://www.nsta.org/>

What is the budget source for the plan to attract new students to this proposed new program?

Sending fliers and notices about the certificate to be posted at the STEM hubs website and at OSTA is free.

Marketing to most state science teachers organizations is free.

Will new sections of courses or additional hires be needed to offer this program? What are the faculty salary budget impacts of this proposed new program? Will additional facilities be required?

No new hires needed. No new facilities required.

The ED 690 STEM Education Leadership and the ED 609 STEM leadership practicum are new.

An advising guide with the list of best fit electives consists of existing courses from ED, MTH, CSE, and OL.

All STEM education courses are built into a rotation schedule.

The STEM education advisor assists with scheduling to ensure STEM education graduate students enroll when the class is offered so as to avoid individual study formats.

Notes/Comments

At the time this was submitted GLOs were not available to select from. Only ULOs were available. The GLOs are identified at the end in the learning outcomes statements.

Supporting Documents

Thumbnail	Name	Size	Actions
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Related Courses:

No related courses found

Department head/Program coordinator decision:

✓ Yes by Adele Schepige (2021-02-17 12:08:40)

Comments:

Division chair decision:

✓ Yes by Marie LeJeune (2021-02-18 14:56:33)

Comments:

Division graduate chair decision:

✓ Yes by Marie LeJeune (2021-02-18 14:56:46)

Comments:

Graduate Committee Decision: Pending:

Sent to Melanie Landon-Hays (haysm@wou.edu), Denise Thew (thewd@wou.edu), on: 2021-02-18 14:56:46

Senate Decision: Pending: Leigh Graziano (grazianol@wou.edu),

COE Dean Decision: Pending: Mark Girod (girodm@wou.edu),

Provost/VPAA Decision: Pending: Rob Winningham (winninr@wou.edu),

President Decision: Pending: Rex Fuller (rfuller@wou.edu),

Entered into appropriate systems by registrar's office: Pending: Amy Clark (clarkaj@wou.edu),

Entered into catalog: Pending: Susan Hays (hayss@wou.edu),