STEM IN EARLY LEARNING - ONE YEAR CERTIFICATE OF COMPLETION (CC1)

Description

The STEM in Early Learning one-year Certificate of Completion provides early learning educators with the initial content, skills, and dispositions to support young children's engagement in Science, Technology, Engineering, and Mathematics (STEM) through developmentally appropriate and culturally responsive practices. Required coursework will address the content and pedagogical considerations for supporting young children about the foundations for STEM related focus areas. This certificate prepares current and future early learning educators for employment opportunities that include classroom teaching, family advocacy and engagement, before/after school programming, and early learning curriculum design. Courses required for the STEM in Early Learning align with requirements for the AAS in Early Childhood Education, and students may complete the STEM in Early Learning Certificate while working toward the AAS and/or other certificates in ECE.

Program Learning Outcomes

Upon successful completion of the certificate, students will be able to:

1. Examine current research on the role of science, technology, engineering, and mathematics (STEM) as interrelated to children's development and learning in the early years (birth-age 8).
2. Apply knowledge of child development and developmentally appropriate and culturally responsive practices to learning environments and conditions that support children's active engagement in STEM activities.
3. Identify the equity gaps in STEM with respect to child and family demographics (including ability, race, language, socioeconomic status).
4. Demonstrate critical awareness of how research and evidence-based practices can address inequities.
5. Practice developmentally appropriate practices to engage children, educators, and families in STEM activities.
6. Identify areas of professional development to grow as an early learning educator.

Entrance Requirements

- No formal entrance requirement; course prerequisites in certificate
- Students should review the program's policies and procedures in the COCC Early Childhood Student Handbook before beginning their coursework.

Additional Costs (Beyond Standard Tuition/Fees and Textbooks)

- There may be cost associated with travel related to field placement requirements and background check processes

Course Requirements

Course	Title	Credits
Core Courses		
ED 140	Introduction to Early Childhood Education	4
ED 150	Environments & Curriculum in Early Childhood Education	4
ED 174	Math, Science, and Technology in Early Childhood Education	3
ED 240	Purposeful Learning and Active Exploration through Play	4
ED 235	Teaching and Learning in a Digital Age	3
Science/Math/Computer Science:		8
Choose 2 Courses from Lab Sciences (recommend BI 103 and GS 104).		
Other Required Courses		
ED 114	Mathematics for Early Learning Educators	4
ED 219	Multicultural Issues in Education Settings	3-4
or ED 224	Anti-Bias Curriculum in Education	
WR 121Z	Composition I	4
Total Credits		**37-38**

Advising Notes

- For students interested in the STEM in Early Learning Certificate, please connect with the ECE Program Director, Amy Howell (ahowell@cocc.edu)

Performance Standards

- Academic Requirements:
  - Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
  - All courses in the program must be completed with a grade of C or higher.
- Additional Requirements:
  - Must provide evidence of background check clearance, preferably from the Central Background Check from the Oregon Dept. Early Learning and Care (DELC)
  - Adhere to the field placement contract; and
  - Adhere to confidentiality, health-related and no-smoking policies as
    they pertain to field placement settings.

sample plan

First Year		
First Term		**Credits**
ED 140	Introduction to Early Childhood Education	4
ED 150	Environments & Curriculum in Early Childhood Education	4
Lab Science (recommend BI 103)		4
	Credits	**12**
Second Term		
ED 240	Purposeful Learning and Active Exploration through Play	4
Lab Science (recommend GS 104)		4

WR 121Z	Composition I	4
	Credits	**12**
Third Term		
ED 114	Mathematics for Early Learning Educators	4
ED 174	Math, Science, and Technology in Early Childhood Education	3
ED 219 or ED 224	Multicultural Issues in Education Settings or Anti-Bias Curriculum in Education	3-4
ED 235	Teaching and Learning in a Digital Age	3
	Credits	**13-14**
	Total Credits	**37-38**