STEM Teaching Graduate Certificate

The Graduate Certificate in STEM Teaching offers K-12 educators the opportunity to advance their knowledge and skills in the high-demand field of STEM content and pedagogy. This program will focus on STEM-related research and strategies for digital technology integration into curricula to improve learning outcomes. This graduate certificate is for educators who have the prerequisites to enter graduate study and who wish to advance their knowledge and skills in the field of STEM education, such as certified teachers, informal STEM educators, science specialists, curriculum writers, and supervisors.

Required Courses

TCH ED 6423	Learning Through Inquiry	3
TCH ED 6241	Science Content, Inquiry-Based Instruction, and Assessment: STEM-Integrated Pedagogy	2
ED TECH 5301	Introduction to Computers and the Internet in Education	3
EDUC 6491	Staff Development and Professional Growth	4
Electives		**6**
Choose two of the following.		
ELE ED 6431	STEM Instruction in Elementary Education	
ED TECH 5420	Advanced Computer Programming and Pedagogy	
TCH ED 6445	Integration of Geospatial Resources into K-12 STEM Teaching	
Total Hours		**18**

Upon completion of the program, certificate earners will be able to:

- Demonstrate teaching strategies aligned with 3-Dimensional learning and assessment
- Demonstrate lesson design that integrates STEM into non-STEM disciplines
- Demonstrate lesson design that adapts and enacts learning progressions of key STEM content and skills
- Demonstrate developing capacity to navigate computer technology and uses of internet resources in educational settings
- Demonstrate the use of simple coding language sequences (Python) to increasing utility of STEM-based technology
- Demonstrate Knowledge and Tools to Integrate Technology for Teaching Beyond Geographical Boundaries; Global Education
- Develop leadership skills for the integration of STEM teaching into communities