The STEM^{CS} project Abstract

Narrative Requesting an Early-phase grant.

Absolute Priorities: 1 – Demonstrates a Rationale; 3 – Field-Initiated Innovations – Promoting Science, Technology, Engineering, or Math (STEM) Education, with a Particular Focus on Computer Science; and addressed the Competitive Preference Priority. More than 17,000 8th-12th grade students will be served.

High-need: students who attend rural, high-poverty/low-income school districts and have below proficiency scores in math and/or science state assessments.

STEM^{CS} will provide teacher PD, incentives, and multiple systems of support for rural teachers specifically for STEM and computer science instruction. We will provide specific training and coursework in STEM and computer science to increase teacher knowledge, provide multiple pathways to increase teacher rank, provide topic/subject-specific certification(s) with ongoing, job-embedded, collaborative PD and networking; and work with teachers and districts to create/implement rigorously designed STEM and computer science curriculum.

Objectives for teachers include: following 2 of 4 STEM^{CS} PD Tracks to gain increased topic-specific knowledge; participate in COPs, Data Teams, STEM^{CS} Networks, and employ PBL to improve individual practice; implement rigorous STEM^{CS} curriculum – all to improve effectiveness. **Student objectives** include: having increased opportunity and access to STEM^{CS} pathways and growth academically.

The main project component (ongoing/in-depth PD for STEM^{CS} teachers) and how it is being approached is a special project feature which builds-on existing methods/research & re-works it.

Partners: WKU, SKYCTC, US Satellite Laboratories, BloomBoard, and our 8 participating Districts