**University/K-12 Partnerships in STEM: Focus on Building Capacity in Middle Schools**

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Abstract

The Columbus State University (CSU) STEM Initiative has capitalized on a CSU emphasis on University/K-12 partnerships and the synergy with USG STEM Inititative Funding. Since the inception of the STEM initiative in July 2016, STEM faculty from CSU have met with principals from Arnold Science Magnet Academy, Richards Middle School, Rothschild Middle School, and Aaron Cohn Middle School in order to develop programs at the middle school level that engage students in STEM. Among successful initiatives are a grant to provide cybersecurity instruction at a Muscogee County School District middle school, a second middle school initiative focusing on women in STEM, the expansion of a CSU STEM Summer Camp Series to include transportation to campus, and the emergence of two additional middle school partnerships. STEM summer camps are funded by Noyce Grant, donor funds, and an NSA grant. UTeach Columbus has also hosted workshops this year for science teachers in Muscogee County, and in Chattahoochee County on 5E inquiry lessons. An increase in faculty mini-grants funded by the USG STEM Initiative, the University/K-12 Partnership, and emerging internal and external partnerships have leveraged STEM funding, donor funds, and other grant funding.

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EXECUTIVE SUMMARY

Columbus State University (CSU) STEM Initiative has leveraged USG STEM Inititative Funding and the synergy with a CSU emphasis on University/K-12 partnerships.

* **Middle School STEM Partnership as outgrowth of USG STEM Initiative Funding, CSU Emphasis on University/K-12 Partnerships, donor funding, and other grant funding**
* **NSA grant to provide cybersecurity instruction at Rothschild Leadership Academy in the Muscogee County School District (MCSD) middle school**
* **Women in STEM Initiative at Richards Middle School International Baccalaureate Magnet**
* **Columbus State hosting Two STEM Camps in 2017, a broad field STEM Camp and an National Security Agency (NSA) funded camp focusing on NSA Cybersecurity First Principles**
* **UTeach Columbus Initiative hosting science teachers in MCSD and Chattahoochee County School District in 5E Concept (Engage, Explore, Explain, Elaborate, Evaluate)**

**Challenges/Opportunities:**

**Capitalize on emerging partnerships at other area middle schools.**

**Lessons Learned:**

**Avoid “boiling the ocean” with too many initiatives, too fast.**

**Leverage faculty mini-grants to fund innovative practices including regional middle schools**

**Path Forward**

* **Capitalizing on relationships with Muscogee County School District and Chattahoochee County School District**
* **Provide support for robotics programs at Aaron Cohn Middle School**
* **Faculty course redevelopment mini-grants**