An Overview of the Memphis Virtual STEM Academy at East High School

Next Generation STEM Learning for All:
Changing the Variables of Resources & Time

Alfred Hall, Ph.D. – The University of Memphis
Innovative Technology Experiences for Students and Teachers (ITEST)

• NSF grant awarded to support the Memphis Virtual STEM Academy at East High School

• Awarded to the University of Memphis in partnership with Shelby County Schools

• October 1, 2013 - September 30, 2016
Virtual STEM Academy

- Online Engineering Curriculum Program (STEM Academy, Inc.) - approved as C&T program
- Self-paced, interactive modules with built in assessments
- Concepts are applied in Engineering Laboratory with activities and PBL modules at East C&T Center (Single Investment w/ District RTT Funds)
- Students must attend lab 1 day per week (after school or on Saturdays)
**VSA Faculty**

- 4 core teachers with engineering work experience
  - Civil/Architectural
  - Biotechnology
  - Manufacturing
  - Energy

- **Shared Work Schedule:** 10 am - 6 pm (M-F)
  9 am - 2 pm (Sat)

- **Career and Technology Budget Allocation**
VSA Demographic Data

- 387 students from 25 different high schools
- 57% males and 43% females
- 64% African American
  19% White
  13% Asian
  2% Hispanic/Latino
  1% Pacific Islander
  1% Biracial
# VSA Program of Study

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ITEST Strategies

- STEM Student Support
- STEM Teacher Support
- STEM Interest Development and Program Recruitment
- STEM Partnership Development
STEM Student Support

- Laptop Computers
- Home School STEM Advocates
- University of Memphis Student Tutors/Mentors from Herff College of Engineering
- Advancement Via Individual Determination (AVID) - Persistence Habits and Study Skills
STEM Teacher Support

• STEM Curriculum Alignment and Articulation Agreements
• Professional Development for Academy Faculty and Other STEM Teachers Across the District
• Orientation/Training for Home School STEM Advocates
STEM Interest Development and Program Recruitment

- Saturday Academies for Middle School Students (Grades 7&8)
- Virtual STEM Academy Summer Bridge Program for Entering Academy Participants
STEM Partnership Development

- Provide Real-world Experiences
  - Site visits (real and virtual)
  - STEM Problems or Project Challenges
  - Student Internships
  - Teacher Externships

- Dual Enrollment Opportunities & Initial Course Credit Waivers w/ UM

- Sharing Best Practices w/ TN STEM Innovation Network (TSIN)
Contact Information

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