

NASA MUREP Aerospace Academy (MAA)

Award Year: 2018

Title: Albany State University NASA MUREP Aerospace Academy

Organization: Albany State University

PI Name: Dr. Robert Steven Owor

Summary: "The NASA MUREP Aerospace Academy (MAA) at Albany State University is an intensive project-based program targeted at middle and high school students of the southwest GA region. The vision of the NASA MAA program is to advance excellence in out-of-school time learning for underrepresented and underserved students in grades 6-12, increasing their knowledge, skills and application of learning in STEM and inspiring them towards future STEM careers. In order to achieve this, the Albany State University MAA will focus on implementing activities and strategies to satisfy the following specific MAA program objectives: 1) Increase the number of historically underserved and underrepresented students interested in NASA specific STEM careers; 2) Provide skills to parents/caregivers to work with and encourage their children in STEM activities and programs; 3) involve community groups, business, industry, museums and educational and professional organizations through mentoring, field trips and guest speakers and other MAA activities and 4) Engage students in project based experiences in STEM.

Specific strategies to meet program goal and objectives include the development of a project based STEM curriculum using NASA mission themes of Aeronautics and Mars exploration and professional development of teachers to deliver this curriculum through both face-to-face and on-line sessions. Delivery of a minimum of 36 hours of content to students of the southwest GA region will occur throughout the academic year via Saturday academies, implementation in already established after-school programs such as the Boys and Girls Clubs also during the academic year, and structured camps during the summer. A key component will be the establishment of a family café to expose parents and caregivers to the career opportunities that exist for their children in the STEM fields and to provide the resources and information needed for them to be able to support their children to excel. Central to the program is the development of key and strategic partnerships among schools, businesses and community stakeholders that allow implementation of the program to serve the target population, and that provide resources and support to ensure success and sustainability of the program over time.

This project will include the infusion of space science and engineering, physics, mathematics, biology, chemistry, computer programming, artificial intelligence and machine learning, into middle and high school curricula impacting 1600 middle and high schools in the region. The project based content developed and infused into teaching in the summer, fall and spring learning programs will provide for strong intellectual engagement, scientific preparation, critical thinking and problem solving skills development among participants. The resulting model could be replicated in other regions of the US with underrepresented groups with similar needs for inclusion in effective and high-impact STEM education. These students will help fill the NASA workforce and entrepreneurial needs within the southwest Georgia region and nationally."