

**Title:** PCCC Takes Flight  
**Institution:** Passaic County Community College  
**City/State:** Patterson, New Jersey  
**PI:** Michael Grinberg

**Summary:** Passaic County Community College (PCCC) is requesting federal support through NASA's MUREP Innovations in Space Technology Curriculum (MISTC) program to better prepare under-represented minority students for NASA careers. PCCC's project partners will include NASA's Goddard Space Flight Center (GSFC), the Paterson Public School District's Academy for Earth and Space Science (PANTHER), New Jersey Institute of Technology (NJIT), and the Latinas in STEM Foundation. The major project activities will include the following: 1. To expand student awareness and understanding of avionics technology and associated educational and career opportunities. 2. To engage under-represented minority STEM majors in hands-on learning experiences associated with avionics technology. 3. To ensure that 50 undergraduate students enroll in the project-based coursework, with 10 high-achieving students participating in a summer internship at GSFC. The proposed project entitled PCCC Takes Flight will focus on avionics technology. During the 15-month project period, the College will revise the existing Introduction to Engineering (ES 101) course to include basic avionics concepts such as navigation systems, landing systems, weather radar, transponders, and flight control systems. To support course improvement, the College will establish an avionics laboratory with specialized equipment/simulators, and will work with GSFC to involve students in summer internships on site at NASA centers. This initiative will prepare students for further education and for NASA-related occupations. The project addresses NASA's interest in achieving a diverse workforce. Among its unique attributes, the revised course will integrate project-based learning activities that address student problem-solving and essential workplace skills. Working as part of a project team, the students will work on real-life projects related to NASA interests. Through hands-on activities, students will develop skills in problem-solving, decision-making, technology, teamwork, and communications. The project will invite guest speakers from NASA, business and industry, and from four-year colleges and universities offering related programs so that students are informed of educational and career opportunities related to avionics. Once the revised course is in place, the College will make this course available for dual enrollment with students attending the Paterson Public School District's Academy of Earth and Space Science (PANTHER), located adjacent to PCCC's main campus in Paterson. As part of this project, the College will leverage the experiences of PCCC students who have participated in the NASA Community College Aerospace Scholars (NCAS) Program. These students will serve as mentors to students in the revised course, will facilitate student projects, and will share with students the standards and expectations of NASA and help to prepare them for their internships and future NASA careers.