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Newsroom

Georgia Southern University

Georgia Southern realizes goal of new Engineering and Research Building to equip students, researchers and industry

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Georgia Southern has officially opened its new Engineering and Research Building for students and researchers, a facility that will serve as the epicenter for engineering excellence and innovation in southeast Georgia. The building is designed to facilitate academic and institutional partnerships, inspire creative engineering and accelerate academic success for students in the College of Engineering and Computing. Through the instructional research labs and academic spaces that bridge theory and practice, students will be prepared to solve today's challenges and to make tomorrow's discoveries.

"The Engineering and Research Building will greatly enhance our research capabilities as well as opportunities for our faculty to engage students in hands-on research and teaching projects," said Allen E. Paulson College of Engineering and Computing Dean Mohammad S. Davoud, Ph.D. "It will also increase our faculty's ability to develop collaborative research projects with local industry and agency partners."

A ribbon-cutting ceremony held Friday featured University President Kyle Marrero, Regent C. Everett Kennedy III, Georgia Southern student and ROTC cadet James Miles, Georgia House Majority Leader Jon Burns, and Georgia Power President Chris Womack.

Regent Don Waters, Regent C. Everett Kennedy III; Cadet James Miles; Georgia House Majority Leader Jon Burns; Georgia Southern President Kyle Marrero; Dean of the Allen E. Paulson College of Engineering and Computing; Georgia Power President Chris Womack; Georgia Sen. Billy Hickman; and Georgia Rep. Butch Parrish cut the ribbon on the new Engineering and Research Building.

One robot delivered scissors to the president to use in the ribbon-cutting, then another robot programmed by students and faculty of the manufacturing engineering department helped to cut the ribbon.

Speakers highlighted the facility's capacity to train the next generation of engineers and how the new building contributes to the university's legacy of providing work-ready graduates.

"Today marks the culmination of years of forethought and investment from a number of state leaders, industry leaders and local advocates, who paved the way for us to be here," said Georgia Southern President Kyle Marrero. "Leaders who, dating back to the 90s, could see the future of a growing industry, a state on the precipice of being a national leader in technology and innovation, and a critical need to develop talent in applied engineering across south Georgia."

The Engineering and Research Building's sleek, contemporary environment defined by glass and natural light, soaring high-bay ceilings and modern, industrial feel is strengthened by new, industry-relevant equipment, instrumentation and technology that encourage active learning and sustainability. The highly efficient facility includes sustainable features that complements existing spaces on campus.

The three-story building houses applied research spaces with a strong focus on manufacturing engineering, civil engineering, electrical and computer engineering, and mechanical engineering. The workspaces can be easily reconfigured for various uses, projects and applications and provide students with access to industry-grade equipment as well as expanded opportunities for undergraduate research.

"The investment of the Engineering and Research Building solidifies Georgia Southern University's commitment to students in providing a world-class education in the engineering field, while providing the space and resources necessary to facilitate such," said student Kristifer Bell. "I am enthusiastic to continue my research work and look forward to the interdepartmental collaboration that will be encouraged through the housing of new student and faculty labs under one roof."

The new Engineering and Research building boasts of one of the Southeast's only class 3 cleanrooms. The cleanroom, valued at $700,000, is a necessary space for manufacturing or scientific research that requires an environment with very low levels of pollutants such as dust, microbes, vapors or aerosol particles.

The 140,625-square-foot facility houses robotics and automated manufacturing labs, a nano materials manufacturing lab, a traditional and CNC finishing lab, a materials science and characterization lab, an industrial instrumentation and controls lab, a joining and welding lab, a renewable energy roof deck lab (solar, wind, weather), in addition to flexible research space and metal and non-metal 3D-printing spaces. Impressive high-bay spaces for large projects run nearly the length of a football field in the building.

"The new Engineering and Research Building on campus will provide a great space to foster the growth of the University, both in research and engineering programs," student Erin Dobeis said. "As an undergraduate student, I am eager to begin working in the new facility and have the tools necessary to dive deeper into my studies and research."

Current faculty-led, student research projects include mobile robot applications in a manufacturing environment and automated robotic welding on exotic metals.

The Department of Electrical and Computer Engineering's Laboratory for Advanced Power and Energy Systems (LAPES) enables modeling and hardware-in-the-loop testing of advanced power energy systems over a range of operational voltage levels. The lab also contains equipment valued at more than $350,000, funded by the National Science Foundation.

The Building Environment and Modeling (BEaM) Laboratory, operated by the Department of Civil Engineering and Construction, houses drones and related equipment for digital ground and air-based surveying. The lab's powerful computers process, visualize and support augmented reality to explore the 3D spaces.

The Department of Mechanical Engineering's Computational Fluid Dynamics Research Laboratory supports research on a range of multidimensional, multiphysics problems across a variety of industries.

There are also labs for the Department of Manufacturing Engineering. They include a Flexible Manufacturing System (FMS) Laboratory and CNC Laboratory, both of which are located in the high-bay area. The FMS Laboratory features fully configurable, automated, robotic manufacturing and an assembly production line. The CNC Laboratory, located near the FMS Laboratory, features industry-size and grade computer numerically controlled milling, routing and cutting tools. Upper-level students routinely use this equipment for prototype construction for course and industry projects. The Additive Manufacturing Laboratory, also operated by the department, is housed alone and separately off of the high-bay area to provide a safe environment to conduct applied research in 3D metal printing.

The Manufacturing Senior Capstone Studio is sponsored by Gulfstream Aerospace Corporation.

Senior manufacturing engineering students spend two semesters to practice and apply the skills they learn throughout the Manufacturing Engineering program to implement a Capstone project.

In addition to the 21 research spaces, six classrooms, four conference rooms (one of which is sponsored by Georgia Power), and 27 offices, the building includes a 1,500-square-foot colloquium space with a 500-square-foot balcony. This meeting space with sweeping views of campus is a flexible space for industry gatherings.

The $60 million project was funded by the state of Georgia. Stevens & Wilkinson is the design architect/architect of record and SmithGroup is the associate architect. The construction firm is JE Dunn Construction and the program manager is BDR Partners.

Georgia Southern University, a public Carnegie Doctoral/R2 institution founded in 1906, offers approximately 140 different degree programs serving almost 27,000 students through 10 colleges on three campuses in Statesboro, Savannah, Hinesville and online instruction. A leader in higher education in southeast Georgia, the University provides a diverse student population with expert faculty, world-class scholarship and hands-on learning opportunities. Georgia Southern creates lifelong learners who serve as responsible scholars, leaders and stewards in their communities. Visit GeorgiaSouthern.edu.

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