

**VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
(Agency 208)**

**Capital Project Budget Amendment Proposal**

**Undergraduate Laboratory Building**

	<u>2018-19</u>	<u>2019-20</u>
Additional Funds Requested:		
General Fund	\$0	\$75,000,000
Nongeneral Fund	\$0	\$0

The Undergraduate Laboratory Building (208-18332) is the university's top priority instruction project in its capital outlay plan and was included in the Detailed Planning Pool appropriated in Item 4 of Chapter 759 of the 2016 Acts of Assembly with an effective date of July 1, 2017. Schematic Designs are complete and have been reviewed by the Division of Engineering and Buildings in accordance with the state's Cost Review Process. The project scope and costs are within the Six-Year Capital Outlay Plan Advisory Committee funding report recommendation. Preliminary Designs (Detail Planning) are underway and will be complete May 2019. After these designs are reviewed by the Division of Engineering and Buildings, the project would be ready for construction funding starting July 2019.

This innovative instructional facility is a companion building to the undergraduate Classroom Building (completed in 2016) to address enrollment growth and innovative instructional approaches of the 21st Century. The University needs a larger inventory of modern instructional laboratories to support significant prior and current enrollment growth in the STEM-H disciplines. Modern laboratories are necessary for students to work with the latest technologies and participate in interdisciplinary teams to meet the training expectations of industry and government. Without this project, the University cannot provide the necessary training experience for the STEM-H students or be positioned to accommodate growth for additional STEM-H majors.

The Undergraduate Laboratory Building is essential to support the growing demand for STEM-H majors at Virginia Tech. The University graduates more than twice as many STEM-H majors as any other Virginia institution. Over the past decade, STEM-H majors at Virginia Tech have increased by 30 percent while the total enrollment grew by about eleven percent. Thus, as the total number of students is expanding, the number of STEM-H majors is growing at a faster rate.

The increasing number of students majoring in engineering, data sciences, computer science, traditional physical and life sciences, as well as in new degree programs such as neuroscience, nanoscience and packaging have generated a significant demand increase for course sections of chemistry, biology, and physics laboratory instruction. The university last constructed an undergraduate laboratory facility in 2004 for instruction in chemistry and physics, and the

university's existing inventory of science laboratories for instruction is now too small and generally outdated to accommodate the current demand, instrumentation and integrated nature of instructional spaces for advanced engineering and science majors. Because laboratory rooms are not available to meet the demand for course sections, students must defer courses and potentially extend time to degree completion.

The building design includes a 102,000 gross square foot, four-story structure, clad in a combination of Hokie Stone, precast concrete panels and trim, and a combination of curtain wall glazing and punched opening windows. The building site is located in the north academic section of campus at a major entrance to campus and on an existing paved parking lot adjacent to the new undergraduate Classroom Building that was opened in August 2016. The building design includes a strong connection to the site with hardscaping for exterior classroom sections.

The program for this building includes 14 dry laboratories, 10 wet laboratories, support/storage space for all the laboratories, five classrooms, faculty offices, graduate teaching assistant workspace, and library study areas and project work areas.

This request is for authorization and funding to complete the Undergraduate Science Laboratory Building capital project and to reimburse the University for temporarily funding the planning work with nongeneral fund resources. The total project budget request is \$75 million and the funding plan calls for General Fund support.