

Capital Budget Request

Overview	
Biennium	2012-2014
Budget Round	Introduced Bill
Request Origin	Previously Submitted
Agency	208: Virginia Polytechnic Institute and State University
Project Title	Construct Classroom Building
Project Type	New Construction
Facility/Campus	Blacksburg Main Campus
Project Location	Roanoke Area
Building Name	Classroom Building
Building Name	
Building Function	Higher Education - Instruction (100% E&G)
Contains significant energy costs?	No
Contains significant technology costs?	No
Infrastructure Element	Classroom

Supporting Documents				
File Name	File Size (Kb)	Uploaded By	Uploaded Date	Comment

Narrative	
Description	<p>Project description:</p> <p>This project has been on the University's plan since 2005 and is included as a high priority to increase the quantity of high quality general assignment classrooms to address the significant unmet demand for class registrations and to meet student expectations of state-of-the-art instruction space. This request supports the Top Jobs 21 legislation by providing new academic classroom space and teaching lab space in which to apply new technologies and pedagogical innovations in support of expanded STEM-H instruction. This project includes construction of an approximately 73,275 gross square foot building with 28 classrooms including auditoria, teaching labs, and lecture rooms. The new building location site is on the north side campus in the core of instruction activity. The envisioned building will allow for flexible instruction arrangements and use of the classroom spaces. The University needs to accommodate an unmet general assignment scheduling demand of about 3,000 full time equivalent students. The target number of student stations for the building is approximately 3,000, which based on the normal 14 class-cycles per day provides about 35,300 seats for assignment weekly. This productivity level is approximately the amount needed to cover the shortfall of weekly student station hours needed to address general assignment scheduling demands for timely degree completion. The classrooms will include state-of-the-art technology, seating arrangements, and communications infrastructure to support leading pedagogy practices expected by the students.</p> <p>The project scope is based on the current unmet demand for general assignment campus classrooms capable of supporting modern instruction. The structural building life expectancy is 50 years.</p>
Justification	<p>Program description:</p> <p>A classroom utilization study prepared by a nationally recognized higher education planning consultant concluded that Virginia Tech's general assignment classrooms are on average scheduled at a 130 percent utilization rate, using a national 45-hour calculation standard which measures the peak instruction times. This was the highest utilization the</p>

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consultant had seen at any institution and validates the University is scheduling classes very efficiently during the traditional classroom day.

As a result of this high utilization rate, the demand for higher capacity, technologically enabled classrooms is not being met and both students and faculty are dissatisfied with the available classroom environments. Overall, the University must provide its students and faculty more flexible learning environments to accommodate the expanding use of technology throughout the institution's curricula. Virginia Tech needs more classrooms that can be configured to support group work, that can physically support the use of laptop computers in the classroom, and that can accommodate the new instructional technologies and methods now being implemented across the campus.

The University is pursuing a three-prong approach to expansion and improvement of general assignment classroom space in support of its undergraduate instructional mission. The first prong is to renovate existing classrooms to provide modern spaces. This process was begun through a capital project in the 2002 GOB that improved 44 classrooms. The University continues to renovate and upgrade rooms through internally funded renovation projects. However, when renovations are implemented in existing classrooms, the number of seats in the rooms is decreased to make way for ADA requirements, egress requirements, and improved classroom technology. The paradox is, that as improvements are implemented, the number of seats is reduced, which adds pressure to the registration demand for more rooms. The University cannot therefore resolve the scheduling stress on the general classroom inventory solely through renovation of existing rooms; thus, new classroom space is needed as part of the solution.

The second prong has been to add incrementally to the classroom inventory by including rooms in new buildings. These rooms have essentially replaced general assignment classrooms that were lost on April 16 in the closure of Norris Hall to instructional classrooms.

The third prong is this request for a new classroom building which will provide sufficient capacity of modern, efficient teaching space to address demand and allow the institution to accelerate its renovation and renewal of existing classrooms. In addition, to provide efficient and effective undergraduate instruction, particularly in basic science fields, modern classroom space with flexible furnishings and intensive instructional technology to achieve desired learning outcomes is required. This request supports the Top Jobs 21 legislation by providing new academic classroom space and teaching lab space in which to apply new technologies and pedagogical innovations in support of expanded STEM-H instruction.

The mission statement of Virginia Tech as a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community includes discovery and dissemination of new knowledge central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the University creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.

The University's strategic plan includes three scholarship domains: Learning, Discovery, and Engagement; and three Foundational Strategies: Development of the Organization, Investment in the Campus Infrastructure, and Effective Resource Development, Allocation, and Management. This project supports several key domains and strategies of the strategic plan, and the specific goals of each area addressed by this project are listed below.

Learning: (1) Strengthen and integrate all aspects of the undergraduate academic experience, including the academic experience for transfer students, (2) Invest in departmental and university-level support for undergraduate education, (3) Enhance quality graduate and professional education, (3) Establish a graduate education portfolio reflective of a 21st century university, (4) Develop and integrate advanced technology and information systems applications that assist collaboration, reflection, assessment, and sharing among faculty members, students, and staff members, (5) Contribute to the holistic and transformative educational experiences of Virginia Tech undergraduate and graduate students, and (6) Improve the capital assets that underpin student learning and support programs.

Engagement: (1) Engage students, at the undergraduate and graduate levels, in opportunities for service learning and experiential education that prepare them to serve a diverse and complex marketplace and society while building the capacity of communities.

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Foundational Strategies: (1) Effectively manage the University's space and land resources for learning, living, and work, and (2) Enhance health, safety, and security operations to support the University's discovery, learning, and engagement endeavors.

Existing facilities:

The University has 172 general assignment classrooms in its inventory, scattered among 30 campus buildings. The inventory ranges from some modern, desirable classrooms to a large portion of out-dated and physically constrained classrooms. Some of the existing classrooms are excellent opportunities for major renovation improvements, some may be up-fit with minor non-capital renovation improvements, and some are no longer truly suitable for modern instruction and can not be adequately renovated for current teaching practices. These rooms are generally used for evening tutoring, recitations, and group assignment work.

Overall, the University does not have sufficient or adequate general assignment classrooms or support space for students seeking individual and group work space and group seminar space. Innovations in problem-based curricula requires students to work in teams to research and develop cross-disciplinary solutions. This pedagogy has evolved since virtually all of the academic space has been constructed on the Virginia Tech campus and team based learning work areas are not available in sufficient quantities on the University campus. The lack of this type of space is a point of dissatisfaction among students and is a recruitment deterrent. This project will include instructional space to address the most pressing of these student expectations.

Funding Plan:

The program for the classroom building is 100 percent Educational and General instruction. Thus, the funding plan calls for \$49.975 million of General Fund support.

Alternatives considered

Options considered:

The option considered and not selected is deferring the project to a future biennium. This project is selected as the top priority for funding because of the significant demand for modern classrooms by students and faculty. Without the addition of a new classroom building, the University does not have the capacity to schedule a growing number of course offerings that are needed to meet the demands of our students. For fall 2011, the University will lease additional space for class sections. Inadequate classroom capacity will affect course offerings and seat availability, ultimately impacting students' access and progression to graduation.

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Phase	Year	Subobject	Fund	Amount
Pre-Planning	FY 2013	2322 - Construction, Buildings	0100 - GENERAL FUND	\$499,750
Detail Planning	FY 2013	2322 - Construction, Buildings	0100 - GENERAL FUND	\$2,998,500
Construction	FY 2014	2322 - Construction, Buildings	0100 - GENERAL FUND	\$42,415,750
Equipment Purchase	FY 2015	2295 - Undistributed Equipment	0100 - GENERAL FUND	\$4,061,000
				\$49,975,000

Methodology

Methodology

The construction costs are based on the efforts of an external cost consultant, which analyzed the program requirements and compared to current market building comparables within university settings. Soft cost estimates developed by University staff based on historical data costing analysis and trends over the past eight years. The project is anticipated to have moderate site conditions and will use an appropriate construction delivery method for the size and complexity of the project. Project costs are estimated to the mid-point of construction using three percent escalation in accordance with the instructions for developing the Six-Year Capital Outlay Plan.

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Project Costs		
Cost Type	Total Project Costs	Requested Funding
Acquisition Cost	\$0	\$0
Building & Built-in Equipment	\$30,703,000	\$30,703,000
Sitework & Utility Construction	\$4,605,000	\$4,605,000
Construction Cost	\$35,308,000	\$35,308,000
Design & related Services	\$4,394,000	\$4,394,000
Inspection & Testing Services	\$1,185,000	\$1,185,000
Project Management & Other Costs	\$3,615,000	\$3,615,000
Furnishings & Movable Equipment	\$4,061,000	\$4,061,000
Construction Contingency	\$1,412,000	\$1,412,000
Total Project Cost	\$49,975,000	\$49,975,000

Capacity			
Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost			
Construction Cost	square feet	73,275	
Total Project Cost	square feet	73,275	

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Other Costs		
Cost Type	Total Project Costs	Requested Funding
Design & Related Service Items		
A/E Basic Services	\$3,572,000	\$3,572,000
A/E Reimbursables	\$31,000	\$31,000
Specialty Consultants (Food Service, Acoustics, etc.)	\$0	\$0
CM Design Phase Services	\$441,000	\$441,000
Subsurface Investigations (Geotech, Soil Borings)	\$83,000	\$83,000
Land Survey	\$0	\$0
Archeological Survey	\$0	\$0
Hazmat Survey & Design	\$0	\$0
Value Engineering Services	\$0	\$0
Cost Estimating Services	\$28,000	\$28,000
Other Design & Related Services	\$239,000	\$239,000
Design & Related Services	\$4,394,000	\$4,394,000
Inspection & Testing Service Items		
Project Inspection Services (inhouse or consultant)	\$912,000	\$912,000
Project Testing Services (conc., steel, roofing, etc.)	\$273,000	\$273,000
Inspection & Testing Services	\$1,185,000	\$1,185,000
Project Management & Other Cost Items		
Project Management (inhouse or consultant)	\$637,000	\$637,000
Work By Owner	\$53,000	\$53,000
BCOM Services	\$19,000	\$19,000
Advertisements	\$3,000	\$3,000
Printing & Reproduction	\$11,000	\$11,000
Moving & Relocation Expenses	\$63,000	\$63,000
Data & Voice Communications	\$559,000	\$559,000
Signage	\$25,000	\$25,000
Demolition	\$0	\$0
Hazardous Material Abatement	\$0	\$0
Utility Connection Fees	\$0	\$0
Utility Relocations	\$742,000	\$742,000
Commissioning	\$307,000	\$307,000
Miscellaneous Other Costs	\$1,196,000	\$1,196,000
Project Management & Other Costs	\$3,615,000	\$3,615,000

O & M Costs						
Cost Type	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018

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GF Dollars	\$505,000	\$505,000	\$520,000	\$535,000	\$550,000	\$565,000
NGF Dollars	\$0	\$0	\$0	\$0	\$0	\$0
GF Positions	3.00	3.00	3.00	3.00	3.00	3.00
NGF Positions	0.00	0.00	0.00	0.00	0.00	0.00
GF Transfer	\$0	\$0	\$0	\$0	\$0	\$0
GF Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Layoffs	0	0	0	0	0	0

O & M Costs

Planned start date of new O&M costs (if different than the beginning of the fiscal year)

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