



## Establish Center for Creative Technologies Laboratory

project 1 of 1

### Virginia Polytechnic Institute and State University (208)

#### General Information

Project Type:  Project Code:  Start Year:

Agy Priority:  Location:  Facility:

Building #:  Building Name:

Building Function:

Is this an Umbrella Project?  OR a higher education blanket project?

Projected time to submit working drawings:  months

Projected time to occupy facility or complete project:  months

Projected time to award construction contract:  months

Included in the existing Six Year Capital Plan

#### Contact Information

Name:

Email:

Phone:

#### Agency Narrative

##### Description

This project, formerly titled Renovate Cyber Arts and Creative Technologies Laboratory, proposes to renovate and provide a small addition to an existing University dining facility, Shultz Hall, to house the Center for Creative Technologies in the Arts (CCTA). The renovated space will include multifaceted creative technology laboratories, interactive exhibition space, and a communications studio. The underlying mission of this innovative space is improved learning across subject matter and throughout all grade levels through collaborative programs between PK-12 teachers and Virginia Tech faculty. By leveraging the University's leadership in technology and statewide networks, the CCTA will ensure that Virginia's teachers are core participants in developing learning models for creative and critical thinking and students will have access to the tools and concepts essential to 21st Century workforce skills. The modernized space will provide highly advanced technical capabilities that build on existing collaborative models like STEM education, Institute for Critical Technologies and Applied Science (ICTAS), and Collaborative Technology in Design (CCTAD). The CCTA has in place pilot programs in six Virginia schools, a partnership with the Taubman Museum of Art, and is seeking programmatic links with the Science Museum of Western Virginia and the Barter Theatre.

To establish this innovative Center, the University is requesting state funding of \$29 million. The proposed CCTA project is one component of a three-part facility plan to establish the overall Center for the Arts program at Virginia Tech. The total costs of the three-part facility plan are about \$107 million with the University covering about \$78 million of the costs with self-generated revenue. Thus, financially, this reflects nearly a three to one leveraging of state investment to establish the full Center for the Arts at Virginia Tech.

Traditional classrooms and laboratories are not equipped with the special technology infrastructure for dynamic and

rapidly changing technologies or the high speed interactive communication required for schools and communities to participate in CCTA programs. The proposed renovations will result in premier space at Virginia Tech able to fully support the multidimensional requirements for emergent pedagogy and to enrich programs and student learning in ways that have not historically been possible. Work generated from these collaborative environments will build on the proven links between the arts, technology, and learning with results centering on improved student retention and creative and critical thinking skills as well as build expertise in mathematics, science, technology, arts, and design related disciplines. The CCTA will be linked through Virginia Tech's campus communications network to broadband connections across the region—providing access for schools and community programs.

Specifically, the proposed capital project includes renovating an existing 55,390 gross square foot, 1962 building, Shultz Hall, and adding a small addition to provide significantly enhanced teaching and learning facilities while supporting the adjacent new state-of-the-art Performance Hall. The renovated building will contain highly flexible spaces for a (1) Collaborative digital performance laboratory to research, develop and demonstrate new approaches to experiential learning through cross-disciplinary collaborations between faculty and students in diverse disciplines including, Education, the Arts, Computer Science and Engineering; a (2) Digital Imaging Lab for the production of educational gaming, 3D animation, 2D digital graphics, interactive media design, web design and other internet and interactive research; an (3) Audio Digital Sound Lab to link state-of-the-art technology with computer and audio musicians, composers and audio designers; a (4) Multimedia Development Studio for advanced research in sound, media flow architecture, video analysis, and design for multimedia production; a (5) Technological Fabrication Materials Studio for project prototyping in a variety of scales and materials; (6) Interactive Exhibition Showcase to display work created in CCTA labs and other campus venues, and an (7) Instructional Design Development studio and Education Test Laboratory to evaluate educational materials developed for use in PK-12 classrooms. Instructional designers will work in development teams with faculty across disciplines as well as teachers from school systems in western Virginia.

The University envisions implementing this project concurrently with the Performance Hall project that is already under design. The Performance Hall is authorized under Chapter 847, item C-205, 2007, project code 16758. Optimally, these projects would be constructed under a single contract, which from a procurement perspective is most efficient under a single project authorization. Thus, the University requests this project be authorized under the project code for the Performance Hall, 16758.

### **Justification**

#### **Program Description:**

The Center for Creative Technologies in the Arts will operate across disciplines at the intersection of the arts, education, and technology. It places Virginia Tech at the forefront of developing and integrating learning environments, models, methods, and materials in collaboration with teachers in PK-12 schools. The resulting collaborative products and experiences—many of which will be available in digital formats—will be designed to educate the whole person and will be available to schools across the commonwealth. Such a holistic approach, based in both research and the practical experiences of top public school educators, will help increase student engagement and retention rates, enhance creativity, sharpen critical thinking skills, improve learning and performance both in the STEM curriculum and on Standards of Learning (SOLs), and help Virginia to better prepare, within its own communities, the creative workforce necessary for productive entrepreneurship and participation in an increasingly technology-based global economy.

Virginia Tech is among 76 U.S. colleges and universities nationwide recently selected by The Carnegie Foundation for the Advancement of Teaching for its new Community Engagement Classification. The Foundation lauded the way the University's three-part mission of learning, discovery, and engagement is enhanced through outreach teaching and research efforts. The proposed facility will house innovative studio and workshop space to produce new 21st century models for interaction with schools and libraries, as well as businesses, and community organizations. On-site access to an Interactive Archive, housed in Virginia Tech's Newman Library, will stimulate new scholarship and cultivate educational use of archived media documentation of work generated by national artists, arts organizations and arts partners actively engaged in community building. Elements that support programming in the adjacent Performance Hall and Visual Arts Gallery, including scene construction, costume construction, and live art storage will be accessible as teaching and research tools for the academic programs and will serve as a learning apparatus for PK-12 and the broader community.

The CCTA is a critical element in implementing a key objective of the University's academic strategic plan related to the performing arts, to meet its restructuring commitment to enhance the state's PK-12 system, and to advance economic development in western Virginia. 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) Increase student involvement in discovery and engagement by creating more opportunities for undergraduates to be involved in research capstone experiences, education abroad, and experiential learning; (2) Strengthen and integrate all aspects of the undergraduate academic experience, including the academic experience for transfer students; (3) Invest in departmental and university-level support for undergraduate education; (4) Enhance quality graduate and professional education; (5) Establish a graduate education portfolio reflective of a 21st century university; (6) Develop and integrate advanced technology and information systems applications that assist collaboration, reflection, assessment, and sharing among faculty members, students, and staff members; (7) Contribute to the holistic and transformative educational experiences of Virginia Tech undergraduate and graduate students; and (8) Improve the capital assets that underpin student learning and support programs.

**Discovery:** (1) Strengthen research activities with a focus on materials; (2) Strengthen research activities with a focus on the environment; (3) Strengthen the Virginia Tech Alliance of Social, Political, Ethical and Cultural Thought (ASPECT); (4) Establish the Virginia Tech Performing and Visual Arts Center; (5) Initiate PK-12 enhancements in science, technology, engineering and mathematics (STEM); and (6) Achieve research strength in the areas of innovative technologies and complex systems through the strategic integration and support of critical research areas.

**Engagement:** (1) Connect the University's discovery, learning, and engagement assets through partnerships with both the public and private sectors to advance the economic vitality of the commonwealth and the quality of life of its citizens; (2) Enhance PK-12 education and its continuity with undergraduate and graduate education, especially in the key disciplines of science, technology, engineering, and mathematics (STEM); and (3) 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.

**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.

In Summary, Virginia Tech must be as strong in its creative enterprises as it is in its technology ventures. The facility presented here supports our overall plan to harness the power of the creative technologies in developing innovative students and engaged citizens able to make the most of our changing world.

#### Existing Facilities:

The University's inventory of traditional classrooms and laboratories do not provide adequate infrastructure to fully support emergent teaching-learning structures in the creative technologies arena which are necessary to enrich programs and student learning in ways that have not historically been possible. The CCTA will provide the place and infrastructure to fully immerse the University and the extended outreach community into a 21st century exploration of a place and space where art, humanities, science, engineering, and technology intersect.

Shultz Hall is in the Facility Inventory Condition and Assessment System with a facility condition index of 33 percent; thus, the proposed renovation to convert the building to academic use will include a complete repair of the exterior envelop associated with the interior and mechanical improvements.

#### Funding Plan:

The proposed CCTA project is one component of a three-part facility plan to establish the overall Center for the Arts program at Virginia Tech. The complete plan includes a \$63 million Performance Hall, a \$15 million parking structure, and the \$29 million CCTA. This total \$107 million investment for academic, performance, and support space will address our goal of "educating the whole person" starting at PK-12 and will be a major community resource and economic driver throughout western Virginia. The University's innovative funding plan includes \$78 million of private gifts, project revenues, and partnerships to fund to build the Performance Hall, the parking structure, and the small portion of non-instructional space in the CCTA. The remaining \$29 million of capital funding for the CCTA is being requested from the state in support of the Educational and General program. Financially, this reflects nearly a three to one leveraging of state investment to establish the full state-of-the-art Center for the Arts at Virginia Tech.

#### Options Considered

Options considered and not selected include constructing a new building and deferring the project. The location of the existing Shultz Hall is an optimal location for the program and the renovation costs are economical for this project

because of the significant use of existing foundation, structural, and infrastructure components. Thus, renovation is the selected option over new construction. The program is a key strategy for the future of the University and its support of K-12 education are top priorities of the institution. This project is being developed in conjunction with the Performance Hall project that is already in planning. The optimal implementation of the projects is to execute both under a single design contract and subsequent construction contract which requires approval of this project in the 2009 budget session. Thus, delaying this project to future biennia negatively impacts the overall implementation of the Center for the Arts program.

**Costing Methodology**

The costs are based on mid-schematic design cost estimates from professional consulting services. Virginia Tech has secured the services of Snohetta and STV Architects to provide architectural and design services for the construction of a new facility to house lab, educational, and support space for the Center for the Arts. The schematic design phase documents are expected to be completed in June 2009, which would include a detailed cost estimate for the facility. The total budget for this project remains at \$29 million. 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.

**Project Costs**

1. Aquisition of Property:	\$0
2. Acquisition of Plant	\$0
3. Building and Built-in Equipment	\$16,880,000
4. Sitework and Utilities	\$1,999,000
5. Architectural and Engineering Fee	\$3,028,000
6. Loose Furnishings and Equipment	\$2,100,000
7. Contingencies	\$755,000
8. Project Inspection	\$490,000
9. Other Costs	\$3,748,000
<b>Total Cost</b>	<b>\$29,000,000</b>

The following items (10, 11, 12) are included in above costs

10. Estimated Total Planning Costs:	\$3,173,000
11. Estimated New Construction Costs:	\$2,655,219
12. Estimated Improvements Costs:	\$18,616,781

**Itemized "9. Other Costs"**

1. Project Management In Capital Project Budget:	\$410,000
2. Special Consultants (if not included in A & E fees):	
A. Scheduling Consultant	\$0
B. HVAC Commissioning	\$169,000
C. Furniture Design	\$105,000
3. Asbestos and lead based paint survey and design:	
4. Asbestos abatement:	\$80,000
5. Independent Cost Estimates:	\$15,000
6. Value engineering	\$0
7. Subsoil investigations:	\$17,000
8. Construction testing services:	\$94,000
9. Printing	\$6,000

10. Advertisements	\$3,000
11. Work by owner	\$817,000
12. Signage	\$22,000
13. Miscellaneous utility charges	
	14. Moving expenses
<input type="text" value="\$0"/> 15. Miscellaneous other costs (itemize):	
A. Relocate TV Studio	<input type="text" value="\$1,500,000"/>
B. Native Stone	<input type="text" value="\$54,000"/>
C. Review Process	<input type="text" value="\$19,000"/>
D. Other	<input type="text" value="\$437,000"/>

**Operating and Maintenance Costs**

	1st Year	2nd Year
1. Personal Services	<input type="text" value="\$75,915"/>	<input type="text" value="\$113,873"/>
2. Nonpersonal Services	<input type="text" value="\$186,109"/>	<input type="text" value="\$279,163"/>
3. Equipment	<input type="text" value="\$15,000"/>	<input type="text" value="\$3,000"/>
<b>Total O and M</b>	<b><input type="text" value="\$277,024"/></b>	<b><input type="text" value="\$396,036"/></b>
4. FTE Employees:	<input type="text" value="2.00"/>	<input type="text" value="2.00"/>
5. One Time Costs:	<input type="text" value="\$12,000"/>	<input type="text" value="\$0"/>
6. Cost Savings	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>
7. FTE Savings	<input type="text" value="\$0"/>	<input type="text" value="\$0"/>

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

**Funding Requests**

F Year	GF	NGF	Tax Debt	9c Debt	9d Debt	Total Request
2011	\$29,000,000	\$0	\$0	\$0	\$0	\$29,000,000

Funding Phase: Full Funding

**Prior Funding**

Biennium	Appropriation Act	Act Item	Funding Source	Project Code	Amount
2002-04	Chapter 1042	C-81.10	9d Revenue Debt	16758	\$40,000,000
2004-06	Chapter 951	C-120.05	9d Revenue Debt	16758	\$5,000,000
2004-06	Chapter 951	C-120.05	Nongeneral Fund	16758	\$5,000,000
2006-08	Chapter 847	C-205	9d Revenue Debt	16758	\$13,000,000

**Project Scope**

1. Acquisition - Property	<input type="text" value="0"/>	Sq. Ft. / Acres	Cost per Sq. Ft. or Acre	<input type="text" value="n/a"/>
2. Acquisition - Plant	<input type="text" value="0"/>	Sq. Ft.	Cost per Sq. Ft.	<input type="text" value="n/a"/>
3. New Construction	<input type="text" value="7,900"/>	Sq. Ft.	Cost per Sq. Ft.	<input type="text" value="\$336"/>

4. Improvements	55,390	Sq. Ft.	Cost per Sq. Ft.	\$336
5. Capacity	0	Beds/Units	Cost per bed/unit	n/a

**Capital Lease**

Name of Lessor:

Space Requirements:

Need for Leased Space:

Time Period

Proposed Effective Date of Lease:  Proposed Duration:  months

Include Periodic Renewal:  Renewal at option of:  Renewal Extension Period:  months

Lease payments that would be made during the six year capital planning period

Fund	Year1	Year2	Year3	Year4	Year5	Year6
<i>subtotals</i>	\$0	\$0	\$0	\$0	\$0	\$0

Total lease payments for six year period:

Total payments for the duration/terms of the lease:

**Energy Component**

Energy Component Description

Annual Energy Operating Costs by Energy Type and Fund Source

Energy Type	Fund Source	Cost
	<b>Total</b>	\$0

Cost Estimate for Energy Component

Subcomponent	Cost
Materials Cost	\$0
Labor Cost	\$0
Engineering & Design Cost	\$0
<b>Total</b>	\$0

Annual Cost Savings for Energy Component

Fund	Savings
	\$0
<b>Total</b>	\$0

PID: 5545