

**CGSP Resolution 2004-2005A**  
**Resolution for Establishment of a Master of Building/Construction Science and Management Degree Proposal in the Virginia Tech College of Architecture and Urban Studies (CAUS)**

<b>Approved by Commission on Graduate Studies:</b>	<b>November 17, 2004</b>
<b>First Reading at University Council:</b>	<b>December 6, 2004</b>
<b>Approved by University Council:</b>	
<b>Approved by the President:</b>	
<b>Approved by the Board of Visitors:</b>	
<b>Effective:</b>	<b>Fall 2005</b>

**WHEREAS**, Building/Construction Science and Management as an academic discipline, as an economic sector, and as an area of emphasis for students has experienced significant growth over the past four decades; and

**WHEREAS**, many management positions in the construction profession require or strongly favor advanced research degrees for employment and advancements; and

**WHEREAS**, the shortage of Ph.D. candidates in construction for college-level teaching positions indicates a need for more “feeder” programs at the Master’s level; and

**WHEREAS**, there are few Master’s programs in the Commonwealth of Virginia, and none that focus on Building/Construction research in both public and private contexts; and

**WHEREAS**, the proposed Building/Construction Science and Management Master’s program supports the strategic goals of Virginia Tech, specifically “to increase graduate students enrollment and research”; and

**WHEREAS**, the current program, a construction management option in the M.S. in Architecture program in the College of Architecture and Urban Studies in existence since Fall 1988, has successfully graduated students and placed them in Ph.D. programs and employment, and has experienced a significant increase in applications; and

**WHEREAS**, the spin-off program would require no new resources to maintain at the current level;

**THEREFORE be it resolved**, that the proposal for a Master of Science in Building/Construction, Science and Management be approved and the proposal forwarded to the President, the Board of Visitors, and SCHEV for approval.

**RECOMMENDATION:**

That the above resolution be approved.

## **PROPOSAL SUMMARY**

### **MS in Building/Construction Science and Management**

#### **Program Overview**

The Department of Building Construction originated with a program in Architectural Engineering in 1946. The program became a department in 1962. The department is accredited by the Accreditation Council for Construction Education. A Master's of Science in Architecture with a Construction Management Option was started in 1991 with 5 students. In the fall of 2003 there were 27 students enrolled in this option. There were also 8 PhD students studying Construction Management under the Environment Design and Planning PhD as the umbrella degree in the College of Architecture and Urban Studies.

The request for this MS degree is a result of continued growth and enrollment in the Masters of Science Architecture - Construction Management Option. In order to achieve recognition at the college, university and with our peers; the Department of Building Construction needs to have a graduate degree. This degree will help in recruitment and our research mission.

The MS Construction Degree will require 30 credit hours with 18 of these required at the 5000 or above level. Students from disciplines outside of construction may be required to take an additional 6 CH, thus they will do 36 credit hours of graduate credit.

The graduate degree will educate graduate students in the areas of business and management in general; and the principals, practice, means & methods, and management of construction in particular. Further the graduates will understand the issues of cost benefits and time analysis of construction projects. Success of the degree will be determined by placements of graduates and their growth in the industry; and by continued growth of students in the program. Placement and growth in the industry is done by conversations with employers and graduates at our career fairs (twice per year) and with members of the department's advisory board (meetings are twice per year).

The Department of Building Construction currently has 6 full time tenure track faculty. This includes a new faculty member that has been added this fall due to Pulte Professorship Endowment and commitment from Provost's office. No further faculty or resources are needed. No new courses need to be developed except to allow new faculty members to have an area of research interest as a possible new course.

The approval of this MS Degree will eliminate the Masters of Science in Architecture – Construction Management Option.

#### **JUSTIFICATION:**

The steady growth throughout the United States in construction graduate degrees is in response to the change in the industry, where there is a growing need for bachelors and advanced degrees in construction due to the increased complexity of today's construction projects. The following is from U.S. Department of Labor Bureau of Labor statistics:

In 2000, more than 100 colleges and universities offered 4-year degree programs in construction management or construction science. These programs include courses in project control and development, site planning, design, construction methods, construction materials, value analysis, cost estimating, scheduling, contract administration, accounting, business and financial management, building codes and standards, inspection procedures, engineering and architectural sciences, mathematics, statistics, and information technology. Graduates from 4-year degree programs usually are hired as assistants to project managers, field engineers, schedulers, or cost estimators. An increasing number of graduates in related fields-engineering or architecture, for example-also enter construction management, often after having had substantial experience on construction projects or after completing graduate studies in construction management or building science.

Around 20 colleges and universities offer a master's degree program in construction management or construction science. Master's degree recipients, especially those with work experience in construction, typically become construction managers in very large construction or construction management companies. Often, individuals who hold a bachelor's degree in an unrelated field seek a master's degree in order to work in the construction industry. Some construction managers obtain a master's degree in business administration or finance to further their career prospects. Doctoral degree recipients usually become college professors or conduct research. (Occupational Outlook Handbook, [www.bls.gov](http://www.bls.gov))