

# Science & Technology Education in Graduate Programs

## House Joint Resolution 611

### Meeting Summary

August 16, 2007; 1:00 p.m.

House Room 1, The Capitol

<http://dls.state.va.us/TechHigherEd.htm>

HJ 611, the joint subcommittee tasked with studying ways to promote the inclusion of science and technology education in business, law, and policy graduate programs at state institutions of higher education, held its first meeting on August 16, 2007. The joint subcommittee elected Delegate Harry R. Purkey as chairman, and Senator Frank M. Ruff, Jr. as vice-chairman.

Jessica Eades, staff to the joint subcommittee, provided an overview of the resolution that created the study. The joint subcommittee has been tasked with four key charges: (i) to review the curricula of existing graduate programs in business, law, and policy at the Commonwealth's institutions of higher education; (ii) to review and recommend innovative ways to encourage students to specialize in science and technology in their respective business, law, or policy graduate programs; (iii) to examine ways to encourage partnerships between business, law, and policy graduate programs and math, science, engineering, and technology graduate programs; and (iv) to examine ways to encourage partnerships between business, law, and policy graduate programs and science and technology-based businesses. The joint subcommittee has been authorized to conduct four meetings, and must complete its work by November 30, 2007.

Delegate John A. Cosgrove, a member of this joint subcommittee and the chair of the joint subcommittee studying science, technology, engineering, and math education (STEM) from kindergarten to the undergraduate level (HJ 25), provided an overview of the on-going work of that group. While HJ 611 has not been directed to study STEM at the K-12 level, the HJ 25 work forms a foundation for discussion of the issues that HJ 611 has been directed to study. HJ 25 is completing its second year of study, and will be completing its meetings and issuing its recommendations by November 30, 2007.

Delegate Cosgrove shared that HJ 25 has focused on issues relating to both teachers and students, and has identified unique issues associated with STEM education at the primary, middle school, high school, and undergraduate levels. Evidence indicates that children often become disengaged from science and math studies as early as third grade; thus, ensuring that the Commonwealth has innovative and knowable teachers is essential. In the realm of higher education, recent studies indicate that 50 % of incoming freshmen planning on majoring in science and 60 % planning to major in math do not complete a degree in their intended field. A large reason for this is that many incoming freshmen are

not adequately prepared for college-level mathematics, the foundation for most STEM-related curriculum.

Alan F. Edwards, Jr., Director of Policy Studies at the State Council of Higher Education for Virginia (SCHEV), provided the joint subcommittee with an overview of SCHEV's oversight of graduate programs at public institutions of higher learning. Currently, pursuant to the Code of Virginia, SCHEV approves new degree programs, reviews existing programs' productivity, and reviews proposed closure of "high demand" or "critical shortage area" degree programs. In reviewing proposals for new programs, SCHEV considers market demand, student demand, resource needs, and several other factors. While SCHEV review is required for new programs, it is not required for concentrations, tracks, or emphases within existing programs.

In reviewing the joint subcommittee's charges, Mr. Edwards suggested that the joint subcommittee focus on ways to encourage partnerships between existing business, law, and policy graduate programs and existing math, science, engineering, and technology graduate programs. He also suggested an emphasis on developing partnerships between business, law, and policy graduate programs and technology-based businesses in the Commonwealth. He also recommended that public institutions should be encouraged to develop STEM tracks and concentrations within existing business, law, and policy programs, as this can often be done with existing resources and would not require SCHEV approval. Establishing joint degree programs (such as simultaneous masters and law degree programs) should also be encouraged. Finally, he encouraged the establishment of new interdisciplinary degree programs, although he noted that this approach would require SCHEV approval, and would also likely require additional faculty and administrative funds.

In discussing a workplan for future meetings, joint subcommittee members indicated that they would like to meet with representatives from all of the Commonwealth's institutions of higher education, and would like to hear about some existing graduate programs. It was also suggested that the joint subcommittee, with SCHEV's assistance, identify where the needs of technology and business, law, and policy intersect, and to identify gaps. Finally, the joint subcommittee expressed an interest in hearing from the technology-business sector to learn about their needs in hiring business, law, and policy graduates.

The next meeting of the joint subcommittee is scheduled for Wednesday, September 5, at 1:00 in House Room 1 of the State Capitol.