

Charter of the Governor's STEM Advisory Council

Educating and Enabling Our Workforce to Succeed in the 21st Century

Lieutenant Governor Timothy P. Murray, Chairman
www.mass.gov/governor/stem

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Background and Charter for the Council

On October 14, 2009 Governor Deval Patrick signed Executive Order #513 creating the Governor's Science, Technology, Engineering, and Math (STEM) Advisory Council and appointed Lieutenant Governor Timothy P. Murray the Chairman. STEM is not a new issue for Lt. Governor Murray and the Patrick-Murray Administration. As Mayor of Worcester, Lt. Governor Murray oversaw over \$1 billion of new economic development projects that helped transform an older industrial city into one that is well positioned to lead and grow in the state and region. Lt. Governor Murray also served as Chairman of the Worcester School Committee. As Chairman, he led efforts to build partnerships with community leaders and education professionals, and also supported the district's dropout prevention and recovery efforts. In partnership with these leaders, Lt. Governor Murray contributed to the successful creation of the new Worcester Technical High School.

This new Council will build on the Patrick-Murray Administration's previous efforts to bring together experts from various sectors to advise the administration on a variety of key STEM policy areas. For example, Governor Patrick engaged education stakeholders through the Readiness Project, IT professionals through the IT Collaborative, education and workforce development professionals through the Task Force on 21st Century Skills, and economic development professionals through the development of a *Framework for Action: The State Regional Economic Development Strategy*. Lt. Governor Murray has also held numerous roundtable discussions over the past three years with different industry professionals from areas such as vocational technical education, manufacturing and IT. The Legislature and the Department of Higher Education have also collaborated with the work done by the Robert H. Goddard Council since its creation in 2004. All of these partnerships have resulted in thoughtful policy recommendations being delivered to the Governor and Administration.

The Council will serve as the central coordinating entity to bring together all of the participants and parties from state agencies, the legislature, and members of the public and private sector involved with STEM planning and programming. Recognizing that STEM is crucial to our students' abilities to remain globally competitive as well as the Commonwealth's economic well-

being, this Council was established to ensure we are working collaboratively to improve STEM education and policy statewide. Together we will set measurable goals, and strive to take to scale programs that we believe will positively impact our students' understanding of and interest in STEM. This Council will set priorities, invite participation of interested constituencies, and ensure that we are making measurable improvements to the college and career readiness of students across the state.

The Council will take a multi-faceted approach in the beginning months, that will include creating a statewide STEM Plan with clearly defined goals and objectives for the next five years, assessing how best to bring to scale the most effective STEM programs in Massachusetts, facilitating the development of activities to fill unmet needs, and providing recommendations for a campaign to build public support across the Commonwealth for the STEM disciplines. Working with families, educators, legislators, and business and community leaders, the Council seeks to promote a greater understanding about the importance of these essential disciplines to students' academic achievement and successful preparation for entry into the 21st Century workforce.

Members of the Council will be divided into six subcommittees with different areas of focus.

The subcommittees are:

1. Public Awareness Subcommittee: Creating and Maintaining Student Interest
2. Teacher Development Subcommittee: Training, Recruitment, and Retention
3. Infrastructure Subcommittee: Grants, Strategic Partnerships, and Sustainability
4. Data Collection Subcommittee: STEM Metrics, Indicators and Evaluation
5. Curriculum Framework and Standards Subcommittee: Alignment and Upgrades
6. Diversity Subcommittee: Improving the Achievement Gap and Pursuing Additional STEM Opportunities for Women and Minorities

Due to the overwhelming enthusiasm and interest of those wanting to participate in this Council, members of the Council will be paired with non-member enthusiasts. This will include members of the seven regional STEM Networks that will remain intact and active. This will allow the STEM Council to collaborate even further and expand our reach. These six subcommittees will meet before the end of February, 2010 and present a report by June 30, 2010, including benchmarks and recommendations for the Governor, Cabinet Members, and Legislators to review.

The Need for STEM Coordination and Improvements

Here in Massachusetts, while our students' test scores are among the best in the country, we need to better connect the high level of academic achievement of our students. However, it is clear that our high achievers in math and science are not leveraging those skills by choosing to enter STEM careers. The number of students in our colleges and universities studying in STEM fields declined from 1993 to 2007, while the number rose nationally. According to the 2008 Report of the College Board's review of SAT exams, only 22.5% of Massachusetts test takers expressed an interest in pursuing a college major in STEM education, well below the national average of 28% and our leading competitor states.

This is troubling when you consider:

- Eighty percent of jobs created in the next decade will require math and science skills.
- STEM related jobs pay higher wages and have greater levels of job security during down economic periods than other sectors.
- STEM related positions are likely to lead to medical advances, the creation of new products, and a stronger national economy.

Having a pipeline of STEM graduates is not only important for Massachusetts, it is critical to the success of our nation as a whole. America is at risk of losing its leadership in technology and innovation as baby boomer retirements are expected to deplete the science and technology workforce by 50% over the next decade. There is no better time for Massachusetts to focus on STEM.

Conclusion and Next Steps

This Council will work to move Massachusetts in a positive direction relative to a STEM prepared workforce. Our shared goal is to ensure that all students are educated in STEM fields, which will enable them to pursue post-secondary degrees or careers in these areas, as well as raise awareness of the benefits associated with an increased statewide focus on STEM. Through this collaboration we can make a difference in supporting the Commonwealth's goal of continued leadership in scientific and technological innovation.

By February 2, 2010 subcommittee chairs will be named and Council members will be sent a list of subcommittees and their descriptions by email and will be asked for their feedback on their top two preferences. By February 15, 2010, all members will be assigned to a subcommittee and the co-chairs of each subcommittee will schedule their first meeting or conference call. Staff in the Lt. Governor's Office and within the Executive Office of Education will be assigned to each subcommittee to assist with meeting notice and planning as they work to complete their respective reports by June 30, 2010.