

Commonwealth of Massachusetts STEM Advisory Council



**STEM Advisory Council
Executive Committee Meeting
October 27, 2017**



Welcome



Welcome

Agenda Overview

Updates

Goals & Priorities

Wrap Up

Welcome from the Co-Chairs

- Lt. Governor Karyn Polito
- Congressman Joseph Kennedy III



STEM Advisory Council Priorities



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- 1. Expand Work-Based Learning Programs**
- 2. Develop and Grow STEM Early College Career Pathways**
- 3. Broaden and Deepen Computer Science & Engineering Initiatives**
- 4. Align the work of the Regional STEM Networks to the STEM Advisory Council priorities**



STEM Advisory Council Priorities



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1. Expand Work-Based Learning Programs

GOAL: Provide students in high-need communities with meaningful on-the-job learning experiences to prepare them for the workplace and to give them hands-on experience with STEM careers

MA STEM@Work

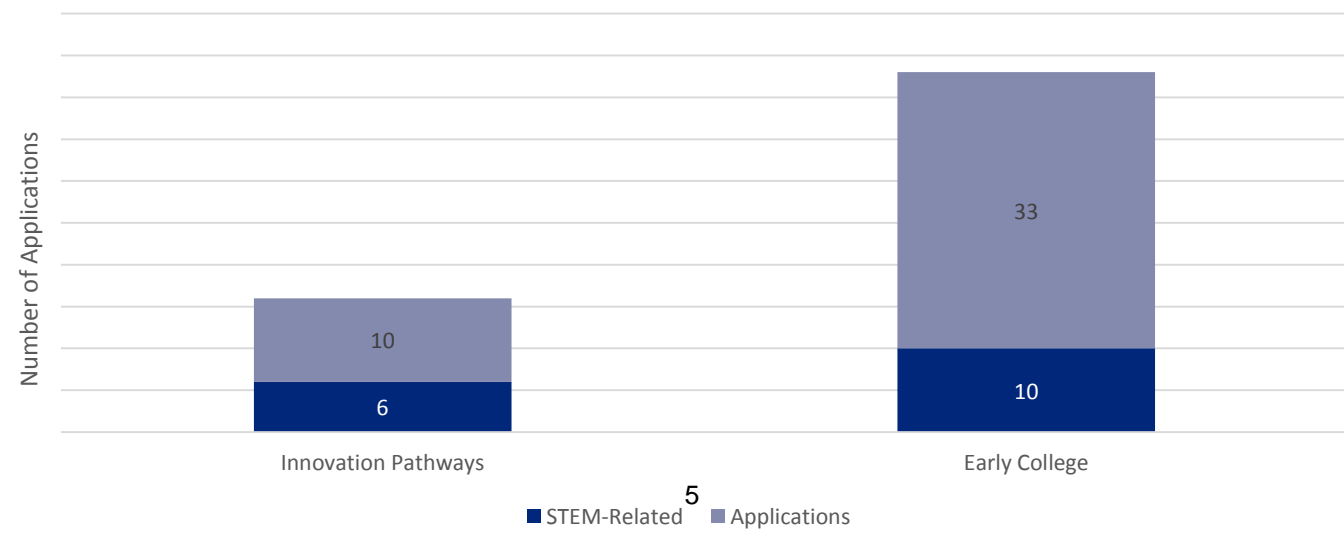
- The STEM Council released an RFP for a 2-year competitive grant for 5 Workforce Development Boards to *expand local outreach, recruitment, and access* for paid STEM-focused high school student internships.
- The STEM Council *is hiring a consultant* to assist in supporting the Workforce Development Boards to capacity build, expand outreach, and engage employers in bringing on more paid STEM-focused high school student internships. Last year, this effort resulted in 25 new companies establishing paid high-school internships with 54 placements this summer. We are hoping to double that number this year.

2. Develop and Grow STEM Early College Career Pathways

GOAL: *Provide students in high-need communities with access to integrated career pathways into STEM fields, beginning in middle school and reaching into college and the workforce*

High Quality College and Career Pathways

- The Executive Office of Education, in partnership with the Departments of Higher Education and Elementary & Secondary Education, are currently reviewing *Early College and Innovation Pathway applications*.
- The STEM Council allocated \$300,000 for competitive *planning and implementation grants* for schools that apply for STEM Early College designation.





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3. Broaden and Deepen Computer Science & Engineering Initiatives

GOAL: *Strengthen foundational STEM skills, while deepening the pipeline of well-trained STEM teachers and school leaders*

Computer Science and Engineering Initiatives

- The STEM Council joined the Workforce Skills Cabinet and One8 Foundation to award *a \$1M public/private grant to Project Lead The Way (PLTW)*, to help 45 schools implement the PLTW computer science, engineering or biomedical science curriculum, including teacher training and equipment purchases.
- Nearly 400 people – 200 of them teachers – attended the *annual Project Lead the Way (PLTW) Conference hosted by WPI*. The conference provided breakout sessions, hands-on activities, program-specific networking, and professional development sessions for current leaders and prospective schools to learn about PLTW and grant opportunities.

Assessment Updates

- Discussion regarding *MCAS assessments* and strategies for Computer Science and Engineering



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3. Broaden and Deepen Computer Science & Engineering Initiatives

GOAL: *Strengthen foundational STEM skills, while deepening the pipeline of well-trained STEM teachers and school leaders*

Promoting the Importance of Computer Science and Engineering Initiatives

- The STEM Council allocated funds to *MassCAN to launch its new campaign* for building a broad-based business coalition to advocate for the expansion of K-12 computer science and directly supporting early adopter school districts.
- *Steve Vinter and Tripp Jones* will give updates on the *PACE Initiative* and strategies for these efforts moving forward.



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MassCAN Goals and Mission

Need

Technology occupations are in high demand in Massachusetts, representing nearly 23 percent of total job demand.¹ Demand is growing 50% faster than the market overall.²

Position

CS education is a foundational academic and practical discipline, the expertise is needed in every job sector today, industry demands will accelerate over time, and it is a pathway to opportunity for all.

Goals

- All of MA graduates achieve Computer Science (CS) competency aligned with our state standards
- 30% of graduating seniors establish CS competency established by the College Board (CS Principles)

Mission

Inform

Educators,
parents, and
students

Mobilize

Industry,
educators and
nonprofits

Educate

Expand CS
education
opportunities

Equity

Drive access,
equity, and
inclusion in CS
education

Approach

Strategic alignment and ownership by industry, District Superintendents and educators, and state government to drive awareness, policy & educational change, and pathways to workforce opportunities

¹ *Technology Jobs in Massachusetts*, Burning Glass / Achieve, 2017

² *Beyond Point and Click*, Burning Glass, 2016



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MassCAN 2.0 Organizational Approach

Oversight
and Advice

Sec. Peyser, Comm. Wulfson, Higher Education,
M.A.S.S. Executive Committee, CEOs, STEM Advisory Council

Steering

Business Steering Committee

PACE Leadership Team

Leadership

tbd

M.A.S.S.

Program

Business Coalition

Superintendent PACE Program

Key Partners

MACP, Boston Chamber, AIM, MBR
MassTech, MassTLC, TechNet,
21c

Superintendents, DESE
CSTA/Teachers, EDC, One8

Activities

Strategy
Public Awareness
Public Policy Advocacy
Fundraising

Curriculum and Path Design
District Partnerships and Awareness
School/District Pilots
Evaluation

Policy

DL/CS Curriculum Framework, Teacher Licensure, MassCORE
DESE, Panels, etc.

“What’s Next?”

Looking Ahead

- Discussion on how we can better empower the STEM Council as a fundraising and engagement vehicle for *public/private partnerships*.
 - Computer Science and Engineering
 - Matching Grants for Existing Programming
 - Social Media Campaign
 - Micro-credentials and Certificate Opportunities



Approval of Minutes

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Approval of Minutes from the March 24, 2017 Executive Council Meeting



Wrap Up

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Wrap Up and Next Steps



Appendices



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Appendices



FY 18 STEM Pipeline Fund Budget



FY 18 STEM Pipeline Fund Budget	Proposed Amount
2017 STEM Summit Contribution	\$50,000
STEM@Work Capacity Building Grants and Support	\$250,000
Grants for Computer Science/Engineering Curricula	\$350,000
MassCAN 2.0 Start-Up Grant	\$100,000
STEM Early College Planning Grants	\$300,000
Regional Network Grants	\$300,000
STEM Council Staffing	\$150,000
Total	\$1,500,000