

Massachusetts STEM Advisory Council

One Ashburton Place, Suite 1403, Boston, MA 02108 | www.mass.edu/stem

STEM Advisory Council Full Council Meeting

Tuesday, July 11, 2017

2:30 – 4:00 pm

State House – Room 157

APPROVED Minutes

STEM Advisory Council Members Attending

Lt. Governor Karyn Polito, Co-Chair
Jeff Leiden, Co-Chair
Edmund Beard
Matthew Beyranevand
Megan Bird
Jim Brosnan
JD Chesloff, representing Marcy Reed
Iris Davis
Lane Glenn
Matthew Keator
Laurie Leshin
Eric Lieberman
David Mangus
Travis McCready
Francis McDonald
Merribeth Morin
Secretary Jim Peyser
Stephen Pike
Jennifer Roecklein-Canfield
Dan Shine
Yvonne Spicer
Ian Stith
Steven Vinter

Minutes

I. Welcome from the Co-Chairs

- *Lt. Governor Polito:* Opened the meeting. She thanked the members for their time and gave an overview of the STEM Council and Administration's work to promote STEM Education over the past year.
- *Jeff Leiden:* Jeff discussed recent activities, including the Governor's attendance at the 2017 BIO Convention and about making sure Massachusetts students are competitive in STEM fields globally.

II. Update on Key Initiatives and FY18 Budget

- Sec. Peyser provided an overview of the STEM Council's work (see presentation "STEM Council Recommendations July 2017 Final").
 - Discussed the Council's focus on fewer, scalable programs.
 - Presented the progress in each of the Council's four priority areas:
 - Mass STEM @Work (Council's high school internship initiative): Secretary noted that we are seeing good success. This year, approximately 25 new businesses secured to offer STEM internships to high school students. To get there, we contacted over 100 companies. He also noted the MA Life Sciences Center work on placing students in internships.
 - Developing and implementing STEM Early College Pathways: Secretary noted that designation applications would be available at the end of July.
 - Broadening access to computer science and engineering education: This year, we were able to expand Project Lead The Way to 45 more schools.
 - Laurie Leshin noted that this year's teacher's training for Project Lead The Way at WPI has doubled.
 - Sec. Peyser noted that the Council also subsidized the Advanced Placement and International Baccalaureate exams in STEM subjects for low-income students this year.
 - He also noted that the state joined with the College Board in their application for a National Science Foundation grant to train 100 teachers in the Commonwealth in the AP Computer Science Principles course over two years. No decision has been made yet on that application from the National Science Foundation.

Comments and Questions from Council Members:

- Dan Shine: What is the goal for this year regarding the state covering the AP exam costs for low-income students?
 - Secretary Peyser: School districts hopefully will pick up the slack because the state money to pay last year was a one-time deal. STEM Council subsidized 8900 exams.
- JD Chesloff: I want to acknowledge and thank the state for addressing the concerns of employers.
- Jeff Leiden said the concern he hears most is making sure we provide the students with the correct skills and provide these skills through re-envisioned curriculum starting in middle-schools. He stressed the importance of problem solving and communication skills, as technology is changing so quickly. We really need to teach people to be continuous learners and problem solvers.
- Laurie Leshin: Project Lead The Way results demonstrate one familiar comment by students is the necessity that they take responsibility for their own education.

- Matthew Beyranevand: How can STEM Council members help move this agenda?
 - Sec. Peyser: One way members can help is with the STEM@Work initiative by helping to identify companies who may offer internships. Additionally, identifying school partners (i.e. administrators, teachers, etc.) who can work with students to take advantage of the internships would also be immensely helpful.
- Dan Shine: Has the Council thought about engaging on cyber security?
 - Secretary Peyser: The state is working towards creating a strategy that includes Cybersecurity and other elements (i.e. internships in that area through Connecting Activities).
- Yvonne Spicer: Given the priority that the Council is putting on engineering education, I wanted to flag the potential elimination of the technology and engineering MCAS test for high school students.
 - Sec. Peyser: I wonder if there are other “off-the-shelf” tests would work; unfortunately, the technology & engineering test was so little used. I do, however, understand the negative signaling that happens by removing the test.
- Jim Brosnan: I support Yvonne and want to also advocate for saving the technology & engineering test.
 - Sec. Peyser: I am sympathetic. However, in their final FY 18 budget, the Legislature shaved off \$4M in funding that supports the development and implementation of MCAS tests.

Before transitioning to the next presentation, Blair Brown gave an overview of the Council’s FY18 Budget:

- 2017 STEM Summit - \$50K Donation
- STEM@Work - \$250K
- Computer Science and Engineering - \$350K
- MassCAN - \$100K
- STEM Early College Grants - \$300K
- STEM Networks - \$300K
- Staffing (DHE and EOE) - \$150K

III. Presentation on the Trends in STEM Education

Claus Von Zestrow, COO and Director of Research presented on national trends in STEM Education (see presentation “C Von Zastrow High Poverty Schools 07.11.17”). In his presentation, he highlighted MA STEM education successes and challenges and then offered how other states have addressed those same challenges we share.

Comments/Questions:

- Sec. Peyser: Is the landscape is changing on what a science lab should look like? In particular, what role simulation might play?

- Claus Von Zastrow: A school in Washington provides a good example of simulated classes to allow any student from any school to participate
- JD Chesloff: Do you have examples of support for STEM afterschool programs?
 - Claus Von Zastrow: We have afterschool examples and they're online and searchable. And we also are waiting to see how the STEM Ecosystems work out. I think the Ecosystem is a promising model.

IV. Overview of 2017 STEM Summit

- Lynn Griesemer, Executive Director of the UMass Donahue Institute, presented on the 2017 STEM Summit (see presentation "UMDI PP for 07-11-17 Council Meeting").

V. Wrap up and next steps

- As the meeting concluded, the Secretary opened it up for final remarks, and Matthew Beyranevand mentioned the book he just released "Math with Matthew".