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Carlos E. Santiago
Commissioner
Chris Gabrieli
Board Chairman

MEMORANDUM

TO: The Great and General Court

FROM: Carlos Santiago, Commissioner

DATE: November 16, 2020

SUBJECT: STEM Starter Academy – Year 6 Program Report

The STEM Starter Academy (SSA) program is an initiative of the Massachusetts Department of Higher Education (DHE) provided in collaboration with the Commonwealth's 15 community colleges. The University of Massachusetts Donahue Institute (UMDI) serves as the independent evaluator of the SSA program, conducting data collection and analysis, informing innovations in program practices and reporting evidence of program impacts and student outcomes.

Currently in its seventh year of implementation, the SSA program delivers positive impacts and outcomes for all participating community college students, especially those who represent the growing diversity of our society and who are underrepresented in the workforce of the Commonwealth's STEM economy. Some SSA participants enroll to explore STEM education and



career opportunities for the first time. Others, who may have been exposed to STEM earlier in their education, declare a STEM major upon entry to community college. One third of SSA students are age 25 or older and 54% participate part-time. All students are equitably supported and advanced in STEM career pathways through SSA.

Highlights of the Year 6 SSA Evaluation Report describing *Program Impacts* and *Successful Practices* are provided, below. The full report and appendices are attached.

Program Impacts:

- **SSA has served nearly 31,000 students** over six years who reflect the diversity of the community college population
- **64% of SSA participants have achieved positive outcomes** (degree/certificate earned, transfer to a 4-year STEM program, STEM workforce entry, community college retention) and have achieved those outcomes at higher rates than their non-SSA peers
- **Black SSA participants are twice as likely to achieve positive outcomes** — and they earn STEM degrees and certificates at higher rates—than their non-SSA peers
- Across all groups, SSA students earn STEM degrees and certificates at higher rates than their peers but not to statistically significant levels. **Interestingly, Black students and college math ready students have achieved outcomes at higher rates than their peers - results that *are* statistically significant.** These are important indicators looking forward.

Successful Practices:

- SSA engages a more diverse population of students from groups underrepresented in the STEM workforce and from underserved communities across the Commonwealth
- SSA promotes positive, equitable outcomes through the design and implementation of intentional support services. Case Management is the latest support service innovation
- SSA replicates and sustains impact through best practices, implemented at scale, statewide
- SSA conducts rigorous, ongoing program evaluation to develop data-informed evidence leading to positive, repeatable, student outcomes.

STEM Starter Academy was conceived to address the need for all community college students to have access to rewarding and family sustaining careers based on Science, Technology, Engineering and Mathematics (STEM) and to receive essential supports leading to equitable outcomes. After six years of implementation, the program reports strong evidence of positive outcomes across all student groups and positive indicators of STEM degree and certificate attainment within key student groups. The program also reports data describing persistent and critical gaps in student progress and describes innovations that have been launched to address resistant challenges.

More work lies ahead to demonstrate STEM degree and certificate attainment to statistically significant levels and to strengthen the alignment to high school early college and pathway programs, yet, SSA has proven to be a promising model, operating at scale, and equitably serving the diversity of the Commonwealth's most important resource – our people.

Additional resources, including student video interviews as well as two graphical data reports — Equity and Diversity (2020), and Impact and Value (2020) — can be found at <https://www.mass.edu/strategic/stemstarter.asp>