The STEM Starter Academy (SSA) is a Massachusetts Department of Higher Education (DHE) initiative to recruit, ready, retain, and complete significantly more students through community college STEM pathway programs that result in job placement within STEM professions or transfer to university STEM programs.

To address the need for a diverse population of skilled STEM graduates, SSA (1) recognizes the untapped potential of underrepresented student populations; (2) supports differentiated approaches to meet student needs; and (3) curates best practices at scale to promote positive student outcomes.

Through STEM-focused relationships and social networks, diverse students not only have access to but are accessing a continuum of supports (academic, experiential learning, and wrap-around).

**OVERVIEW: SSA AND MASSACHUSETTS' EQUITY AGENDA**

**What is SSA?**

The STEM Starter Academy (SSA) is a Massachusetts Department of Higher Education (DHE) initiative to recruit, ready, retain, and complete significantly more students through community college STEM pathway programs that result in job placement within STEM professions or transfer to university STEM programs.

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**SSA and the Equity Agenda**

The Board of Higher Education (BHE) is committed to maintaining high levels of educational attainment for all students in the Commonwealth—particularly students from under-served and underrepresented populations. SSA supports this commitment by advancing equitable outcomes in STEM fields.
SSA DEMOGRAPHICS AND STUDENT OUTCOMES

Community College STEM Enrollment

Over time, Massachusetts’ community colleges have become more racially/ethnically diverse. In fall of 2009, 34% of community college students were persons of color. By fall of 2019, 49% of community college students were persons of color. Changes in community college STEM enrollment have mirrored these shifts. In fall of 2009, 34% of STEM students were students of color. By fall of 2019, a majority of community college students in the STEM pipeline were students of color (52%).

While overall enrollment in community colleges has decreased since 2014, the proportion of students that enroll in STEM programs has increased from 27% (2014) to 31% (2019).

SSA Student Diversity

SSA participants reflect the racial/ethnic diversity of the overall population of community college students. This is important because women, Black, and Latinx workers continue to be underrepresented in the STEM workforce.*

SSA supports efforts to increase recruitment and retention of students who come from diverse backgrounds and who have been traditionally underrepresented in STEM. To date, 51% of all students served by SSA have been persons of color. More than half (54%) of SSA participants are women, and 33% are over 25 years of age.

*Adapted from the Pew Research Center (2018). This excludes health fields where women are 75% of the healthcare workforce.

SSA Student Profile and Outcomes

SSA Student Fast Facts

- 22% Are Men of Color
- 45% are STEM at entry
- 29% are Women of Color
- 33% are over 25 years old

Black SSA students are 2.2 times as likely to graduate, transfer, be retained, or enter the STEM workforce after two years, and 2.1 times as likely to have similar positive outcomes after three years. Latinx SSA students are 1.7 times as likely to have similar positive outcomes after two years.***

"I feel like the [SSA program] takes stigma away because you see more women in science and math and you see different ethnicities. I think that is the beauty of [SSA]. I love going to a lab and seeing the diversity."

—Holyoke CC student

**The "other" category is primarily students who identify as "two or more races."

***Black and Latinx SSA participants from 2014–2019 were compared to similar non-participants.
SSA ADVANCES EQUITY

Attaining Equity within SSA

SSA focuses on identifying and supporting the varying needs of underrepresented populations through curated practices intended to promote equity. These practices reflect **five key aspects of equity** in STEM education.

1. Equity in opportunity
2. Equity in content
3. Equity in infrastructure
4. Equity in pedagogy
5. Equity in student outcomes

**Equity in Opportunity**
SSA is committed to ensuring that students from groups that are traditionally underrepresented in STEM have **equitable access** and also are accessing STEM learning opportunities and experiences.

**Equity in Content**
SSA offers students rigorous STEM course content with supports designed to address their individual learning ability, needs, and background.

**Equity in Infrastructure**
SSA acknowledges and understands the importance of supporting teachers with the knowledge and skills necessary to successfully educate underrepresented STEM students.

**Equity in Pedagogy**
Through curated experiences and relationships, SSA takes into account various student indicators (e.g. interest, motivation, academic level, student background) that are important for students to successfully advance in STEM fields.

**Equity in Student Outcomes**
SSA focuses on identifying and supporting the varying needs of underrepresented populations through curated practices intended to promote equity. These practices reflect **five key aspects of equity** in STEM education.

*Adapted from Samuels and Enyia (2015); Allessaht-Snider and Hart (2001); and Johnson (2005). Examples on this page are from interviews with SSA staff and institutional administrators.