STEM Starter Academy Year 2 Evaluation Report Appendices
Contents

STEM Starter Academy Year 2 Site Report Survey

This survey is being conducted by the UMass Donahue Institute on behalf of the Massachusetts Department of Higher Education. Responses to this survey are considered a part of the Year 2 site report for your campus. The Year 2 site report is divided into two parts -- this survey (which consists of several close-ended items), and a site narrative (which includes several open-ended items). The narrative portion of the report will be distributed as a Word document.

The purpose of the STEM Starter Academy Year 2 site report is to review your institution's work with SSA during Year 2 (September 2014 - August 2015). We hope this opportunity to reflect will inform your site-specific evaluation efforts.

Year 2 site reports will contribute valuable information to DHE's report to the Massachusetts Legislature in January 2016, and will also help inform the technical assistance strategy and evaluation efforts of the initiative as a whole.

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Instructions for completing this survey

The survey link you were sent is unique to your institution and references a single institutional copy of the survey. We encourage collaboration among SSA colleagues at your institution to answer the questions as fully as possible. The survey link can be shared. However, the link is to a single live copy of your institution's survey and multiple users will have access via that link. We have also provided a PDF version of the survey to facilitate sharing and collaboration

You do not need to complete this survey all at one time. Your progress in the survey is saved automatically when you close the browser window. To return to where you left off, use the link to this survey that was emailed to you.

If you have technical questions about this survey, please contact Kate Szczerbacki (kszczerbacki@donahue.umassp.edu). Please direct questions about the SSA evaluation to Jeremiah Johnson (jjohnson@donahue.umassp.edu) or Jackie Stein (jstein@donahue.umassp.edu).

Thank you for your participation in this survey.

Please complete this survey by ***November 6, 2015.***

Respondent Information
    Name:
    SSA role:
    Email address:
    Phone number:

In the remaining questions, to the best of your ability please represent your institution's perspective rather than your personal opinion. Please feel free to consult with SSA colleagues from your college to answer the questions in this survey as fully as possible.

1. Target populations

a. Which populations did you <u>recruit</u> for your SSA activities in Year 2? Please check all that apply.
- ❑ High school seniors (those who could matriculate in Fall 2015)
- ❑ Incoming students (those who had applied to or expressed interest in the community college)
- ❑ Current community college students
- ❑ Individuals in Adult Basic Education programs
- ❑ Veterans
- ❑ Community members
- ❑ Adults with high school equivalency (i.e. GED or HiSET)
- ❑ High school freshmen, sophomores, or juniors
- ❑ Other (please describe) _____

b. Which populations <u>participated</u> in your SSA activities in Year 2? Please check all that apply.
- ❑ High school seniors (those who could matriculate in Fall 2015)
- ❑ Incoming students (those who had applied to or expressed interest in the community college)
- ❑ Current community college students
- ❑ Individuals in Adult Basic Education programs
- ❑ Veterans
- ❑ Community members
- ❑ Adults with high school equivalency (i.e. GED or HiSET)
- ❑ High school freshmen, sophomores, or juniors
- ❑ Other (please describe) _____

For the remaining questions about your institution's Year 2 activities, please check the most appropriate box or boxes next to each activity.

2. Recruitment

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Visits to high schools	❍	❍	❍	❍	❍	❍
b. Events at your community college campus	❍	❍	❍	❍	❍	❍
c. Events with high school staff and faculty	❍	❍	❍	❍	❍	❍
d. Outreach by current community college students	❍	❍	❍	❍	❍	❍
e. Outreach by or involving community college faculty	❍	❍	❍	❍	❍	❍
f. Targeted email or letters	❍	❍	❍	❍	❍	❍
g. Targeted phone calls	❍	❍	❍	❍	❍	❍
h. Web presence and advertising	❍	❍	❍	❍	❍	❍
i. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

We know that you might need to skip forward and back as you complete this survey. Would you like a reminder at the end of the survey to return to this page?

❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

3. Academic Advising

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. STEM specific academic advising	❍	❍	❍	❍	❍	❍
b. Intrusive advising	❍	❍	❍	❍	❍	❍
c. Professional development for advisors	❍	❍	❍	❍	❍	❍
d. Advising software	❍	❍	❍	❍	❍	❍
e. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

4. Transfer Exploration

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Transfer-specific advising for STEM fields	❍	❍	❍	❍	❍	❍
b. Transfer-focused events, activities, or speakers	❍	❍	❍	❍	❍	❍
c. Transfer-focused field trips	❍	❍	❍	❍	❍	❍
d. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

5. Career Exploration

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Career advising	❍	❍	❍	❍	❍	❍
b. Career exploration speakers or events targeted to **current students**	❍	❍	❍	❍	❍	❍
c. Career exploration speakers or events targeted to **incoming students**	❍	❍	❍	❍	❍	❍
d. Career exploration speakers or events targeted to **high school students**	❍	❍	❍	❍	❍	❍
e. Career exploration field trips	❍	❍	❍	❍	❍	❍
f. Internships	❍	❍	❍	❍	❍	❍
g. Research opportunities	❍	❍	❍	❍	❍	❍
h. Professional mentorship	❍	❍	❍	❍	❍	❍
i. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

6. Academic Support

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Peer tutoring	❍	❍	❍	❍	❍	❍
b. Professional tutoring	❍	❍	❍	❍	❍	❍
c. Supplemental instruction or facilitated study groups	❍	❍	❍	❍	❍	❍
d. College skills events or speakers	❍	❍	❍	❍	❍	❍
e. Block scheduling	❍	❍	❍	❍	❍	❍
f. STEM-specific orientations	❍	❍	❍	❍	❍	❍
g. Other (please describe)	❍	❍	❍	❍	❍	❍

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Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

7. Financial Support

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Scholarships	❍	❍	❍	❍	❍	❍
b. Participation stipends	❍	❍	❍	❍	❍	❍
c. Book vouchers	❍	❍	❍	❍	❍	❍
d. Textbook lending	❍	❍	❍	❍	❍	❍
e. Paid internships	❍	❍	❍	❍	❍	❍
f. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

8. Coursework

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. STEM introductory courses	❍	❍	❍	❍	❍	❍
b. Advanced STEM courses	❍	❍	❍	❍	❍	❍
c. Developmental math courses	❍	❍	❍	❍	❍	❍
d. Accelerated or self-paced math courses	❍	❍	❍	❍	❍	❍
e. STEM dual-enrollment courses	❍	❍	❍	❍	❍	❍
f. Coursework offered at high schools	❍	❍	❍	❍	❍	❍
g. College success courses	❍	❍	❍	❍	❍	❍
h. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

9. STEM Workshops, Prep, or Booster Programs (not coursework)

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Math placement test refresher or booster programs	❍	❍	❍	❍	❍	❍
b. STEM exploratory workshops	❍	❍	❍	❍	❍	❍
c. College-readiness programs	❍	❍	❍	❍	❍	❍
d. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

10. Industry Engagement

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Industry speakers or instructors	❍	❍	❍	❍	❍	❍
b. Industry aligned curriculum development	❍	❍	❍	❍	❍	❍
c. Industry advisory boards	❍	❍	❍	❍	❍	❍
d. Industry-based internships	❍	❍	❍	❍	❍	❍
e. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
- ❍ Yes, please remind me to return to this page.
- ❍ No, I've completed the information on this page.

11. Social Support

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Cohort meetings	❍	❍	❍	❍	❍	❍
b. Cohort activities	❍	❍	❍	❍	❍	❍
c. Peer mentors	❍	❍	❍	❍	❍	❍
d. Coaching/support from SSA coordinator	❍	❍	❍	❍	❍	❍
e. Study or gathering space for SSA/STEM students	❍	❍	❍	❍	❍	❍
f. Other (please describe)	❍	❍	❍	❍	❍	❍

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Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

12. Professional Development

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Professional development for faculty who teach STEM courses	❍	❍	❍	❍	❍	❍
b. Professional development for STEM students	❍	❍	❍	❍	❍	❍
c. Professional development for advising staff	❍	❍	❍	❍	❍	❍
d. STEM curriculum revision or development	❍	❍	❍	❍	❍	❍
e. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

13. Equipment or infrastructure investments

	Year 2 Academic Year* Activity			Year 2 Summer Activity		
	Yes, took place during the academic year **with** at least partial SSA support or funding	Yes, took place during the academic year **without** SSA support or funding	Did not take place during the academic year	Yes, took place during the summer **with** at least partial SSA support or funding	Yes, took place during the summer **without** SSA support or funding	Did not take place during the summer
a. Classroom technology	❍	❍	❍	❍	❍	❍
b. Laboratory equipment	❍	❍	❍	❍	❍	❍
c. Software (please specify)	❍	❍	❍	❍	❍	❍
d. Other (please describe)	❍	❍	❍	❍	❍	❍

*Academic Year = Fall 2014, Winter 2015, or Spring 2015 terms

Would you like a reminder at the end of the survey to return to this page?
❍ Yes, please remind me to return to this page.
❍ No, I've completed the information on this page.

Thank you for completing this survey! Please take a minute to review the completeness of your responses before you submit.

Your colleges are doing important work through SSA and we would like to capture that work as completely as possible.

We gave you the option, earlier, to ask for a reminder to return to certain pages. If you chose that option, the questions about which you wanted reminders are listed below. Use the "Review My Answers" button at the bottom right if you would like to go back to review your responses.

❑   Question 2: Recruitment
❑   Questions 3 or 4: Academic Advising or Transfer Exploration
❑   Question 5: Career Exploration
❑   Question 6: Academic Support
❑   Question 7: Financial Support
❑   Question 8: Coursework
❑   Questions 9 or 10: STEM Workshops or Industry Engagement
❑   Question 11: Social Support
❑   Questions 12 or 13: Professional Development or Infrastructure Investments

To submit the survey, please click the "Submit" button at the bottom right. You will not be able to edit your responses once you submit.

The respondent whose email address was entered at the beginning of this survey:

Name, Email address

will receive an email containing the raw version of your responses after you submit. We will work to package your responses in a more readable format and send them back to your institution in a timely manner so you can use the data for your internal evaluation processes.

If you have any questions about the STEM Starter Academy evaluation, you can contact Jeremiah Johnson (jjohnson@donahue.umassp.edu or 774-455-7377) or Jackie Stein (jstein@donahue.umassp.edu, 413-587-2409).

STEM Starter Academy - Year 2 Site Report Narrative for *[College]*

The purpose of the STEM Starter Academy Year 2 report is to review your institution's work with SSA in Year 2 (September 2014 – August 2015). We hope this opportunity to reflect will inform your site-specific evaluation efforts. As part of this reflection process, we encourage sites to review their Year 1 report (which included a description of Year 2 plans).

Year 2 site reports will contribute valuable information to DHE's report to the Massachusetts Legislature in January 2016, and will also help inform the technical assistance strategy and evaluation efforts of the initiative as a whole.

This Year 2 Site Report Narrative will be combined with your site's responses to the Year 2 Site Report Survey. The two parts together will comprise your site's STEM Starter Academy Year 2 Report.

REPORT SUBMISSION INSTRUCTIONS:

Please complete the information requested below and **submit your reports by email to Allison Scheff (ascheff@bhe.mass.edu) by the end of the day November 6, 2015.**

RESPONDENT INFORMATION:

Community College:

SSA Staff Contact Information:

SSA Role	First Name	Last Name	Email Address	Phone Number

STEM Starter Academy - Year 2 Site Report Narrative for *[College]*

YEAR 2 REVIEW (September 2014 – August 2015)

1. **Participation**

   a. Please use the following table to describe participation in your SSA activities during Year 2. If activities were offered as part of a larger whole (for example: two different courses offered as part of a summer bridge program), please indicate this.

Activity Name	Term(s) (e.g., Fall 2014)	How many individuals…				Brief description of activity	Type of participants (e.g., current community college students, high school students)	Recorded as primary or secondary participants? (please indicate which)
		Applied for the program or activity?	Were accepted into the program or activity?	Enrolled or participated in the program or activity?	Completed the program or activity?			

STEM Starter Academy - Year 2 Site Report Narrative for *[College]*

2. Overview

a. What were the main successes with the implementation of your STEM Starter Academy grant during Year 2?

b. What were the main challenges with the implementation of your STEM Starter Academy grant during Year 2?

c. Describe the most significant benefits for your institution as a result of STEM Starter Academy activities during Year 2.

d. At the end of Year 2, what elements are emerging as the <u>key or main components</u> of your institution's SSA program?

e. What is the message you share with stakeholders to define or describe SSA at your site?

3. Recruitment

a. What SSA outreach or recruiting activities have been most successful? How do you know?

b. In Year 2, did you target underrepresented or non-traditional students through your outreach or recruitment activities? If so, how were these groups targeted? Were these strategies successful?

c. How were participants selected from among those who applied for SSA programs in Year 2?

4. Readiness

a. What strategies did your college implement through SSA in Year 2 to ready students for college or STEM fields? Which were most successful? What evidence suggests the success of these strategies?

b. Did your college run a summer readiness program through SSA in Year 2? If so, please briefly describe the elements of that/those program(s).

c. Did your college offer any STEM Starter Academy-sponsored developmental math interventions (e.g., developmental math courses, non-credit workshops) in Year 2? If so, please briefly describe the intervention and any progress or outcomes you tracked.

5. Retention

a. What strategies to retain students did your college implement through SSA in Year 2? Which were most successful? What evidence suggests the success of these strategies?

6. Completion

a. What strategies to move students toward completion did your college implement through SSA in Year 2? Which were most successful? What evidence suggests the success of these strategies?

b. Please describe how SSA at your institution is supporting a pipeline to entry into the STEM workforce.

7. Sustainability

a. Please describe your institution's efforts to make SSA programs and activities sustainable beyond the period of grant funding. In addition to this description, please specifically discuss the sustainability of

STEM Starter Academy - Year 2 Site Report Narrative for *[College]*

any stipends, scholarships, or in-kind incentives; and the sustainability of coordinator or support positions.

b. Please describe the relationships and overlap between SSA programming and other campus initiatives and grant-funded initiatives in Year 2.

c. Please describe any challenges your institution has faced in integrating STEM Starter Academy activities into your college's other initiatives and programs.

8. Data and Tracking

a. What strategies did you use in Year 2, if any, to track SSA students for your own internal purposes?

b. What evidence have you collected, if any, that suggests student success in your institution's SSA programs?

c. Does your site have any measurement priorities or plans beyond what DHE and UMDI are measuring at the state-wide initiative level? Please describe.

d. Are there compelling stories of student experiences or successes with your SSA programs or activities that you would be willing to share with stakeholders? Please describe.

9. Technical Assistance and Other Comments

a. Please describe any technical assistance or support needs you have from DHE.

b. Do you have other comments about your Year 2 SSA activities that would inform the evaluation of this initiative?

Appendix C: Year 2 Site Report Survey Data

Recruitment and Outreach

Table 1: Target Populations of SSA Recruitment Efforts, by Site, Year 2															
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.1 Target Populations of Recruitment Efforts																
HS seniors (those who could matriculate in Fall 2015)	14	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Incoming students (those who had applied to or expressed interest in the community college)	12	x	x		x	x	x	x	x	x	x		x	x	x	
Current community college students	13		x	x	x	x	x	x	x	x	x	x	x	x	x	
Individuals in Adult Basic Education programs	6		x				x	x		x	x			x		
Veterans	8			x	x			x	x	x	x			x	x	
Community members	5				x	x		x		x				x		
Adults with HS equivalency (i.e., GED or HiSET)	6		x				x	x		x				x		x
HS freshmen, sophomores, or juniors	8				x	x		x		x		x	x	x	x	
Other	1							x								

Table 2: Populations Participating in SSA Activities, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.2 Populations Participating in Year 2 SSA Activities																
HS seniors (those who could matriculate in Fall 2015)	12	x	x		x			x	x	x	x	x		x	x	x
Incoming students (those who had applied to or expressed interest in the community college)	14	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Current community college students	15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Individuals in Adult Basic Education programs	2						x				x					
Veterans	8		x	x	x	x		x			x	x		x		
Community members	3					x		x			x					
Adults with HS equivalency (i.e. GED or HiSET)	7	x				x	x	x	x	x				x		
HS freshmen, sophomores, or juniors	9	x	x		x	x		x			x		x			x	x
Other	2							x									x

Table 3: Recruitment Events and Outreach Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.1 Recruitment Events and Outreach – Academic year																
Visits to high schools	12	x	x		x	x	x	x	x	x	x		x		x	x
Events at your community college campus	13	x	x		x	x	x	x	x	x	x		x	x	x	x
Events with HS staff and faculty	10	x	x		x	x		x	x	x	x		x			x
Outreach by current community college students	11	x	x		x		x	x	x	x	x	x	x			x
Outreach by or involving community college faculty	10	x	x		x	x	x		x	x	x		x		x	
Targeted email or letters	13	x	x	x	x	x	x	x	x	x	x	x		x		x
Targeted phone calls	8	x						x	x	x	x	x		x		x
Web presence and advertising	7	x					x	x	x	x	x			x		
Other	3	x				x									x	
2.1 Recruitment Events and Outreach – Summer 2015																
Visits to high schools	5		x		x			x						x	x	
Events at your community college campus	8		x		x			x			x	x	x	x	x	
Events with HS staff and faculty	5				x			x			x	x			x	
Outreach by current community college students	5				x			x		x		x			x	
Outreach by or involving community college faculty	4					x				x	x				x	
Targeted email or letters	7		x	x		x		x		x			x	x		
Targeted phone calls	5		x					x		x		x		x		
Web presence and advertising	3						x			x				x		
Other	3					x		x							x	

Table 4: SSA Recruitment and Outreach Activities, by SSA Funding, Year 2 Site Count, N=15					
	Academic Year 2014–15			Summer 2015		
Activity	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Visits to high schools	12	2	1	5	2	8
Events at your community college campus	13	0	2	8	5	2
Events with HS staff and faculty	10	2	3	5	0	10
Outreach by current community college students	11	0	4	5	0	10
Outreach by or involving community college faculty	10	5	0	4	3	8
Targeted email or letters	13	0	2	7	1	7
Targeted phone calls	8	1	6	5	1	9
Web presence and advertising	7	5	3	3	6	6
Other	3	3	9	3	1	11

Coursework

Table 5: Coursework Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.7 Coursework – Academic Year 2014-15																
STEM introductory courses	6	x	x			x	x				x	x				
Advanced STEM courses	2							x					x			
Developmental math courses	8	x	x	x		x	x		x		x	x				
Accelerated or self-paced math courses	6		x			x	x	x	x			x				
STEM dual-enrollment courses	4	x			x				x			x				
Coursework offered at high schools	5	x			x	x					x		x			
College success courses	2		x											x		
Other	0															
2.7 Coursework – Summer 2015																
STEM introductory courses	8	x	x			x	x		x		x	x				x
Advanced STEM courses	3	x						x				x				
Developmental math courses	9	x	x	x		x	x		x		x				x	x
Accelerated or self-paced math courses	7		x			x			x	x	x				x	x
STEM dual-enrollment courses	3					x			x				x			
Coursework offered at high schools	0															
College success courses	6	x	x		x						x			x		x
Other	1												x			

Table 6: Coursework by Sites, Year 2 Site Count, N=15						
	Academic Year 2014–15			**Summer 2015**		
Courses	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
STEM introductory courses	6	7	2	8	5	2
Advanced STEM courses	2	9	4	3	6	6
Developmental math courses	8	6	1	9	5	1
Accelerated or self-paced math courses	6	5	4	7	5	3
STEM dual-enrollment courses	4	6	5	3	2	10
Coursework offered at high schools	5	4	6	0	1	14
College success courses	2	9	4	6	5	4
Other	0	0	15	1	0	14

STEM Workshops, Prep, or Booster Programs

Table 7: STEM Workshops, Prep, or Booster Programs Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.8 STEM Workshops, Prep, or Booster Programs – Academic Year 2014-15																
Math placement test refresher or booster programs	6	x				x					x	x	x	x		
STEM exploratory workshops	9		x	x	x		x	x		x	x		x	x		
College-readiness programs	2										x	x				
Other	1	x														
2.8 STEM Workshops, Prep, or Booster Programs – Summer 2015																
Math placement test refresher or booster programs	8	x				x		x	x				x	x	x	x
STEM exploratory workshops	14	x	x	x	x	x	x	x	x	x	x	x		x	x	x
College-readiness programs	8	x						x	x	x	x		x	x	x	
Other	0															

Table 8: STEM Workshops, Prep, or Booster Programs by Sites, Year 2 — Site Count, N=15	Academic Year 2014–15			Summer 2015		
Workshops, Prep, and Booster Programs	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Math placement test refresher or booster programs	6	7	2	8	4	3
STEM exploratory workshops	9	2	4	14	0	1
College readiness programs	2	11	2	8	6	1
Other	1	0	14	0	0	15

Academic Advising

Table 9: Academic Advising Activities Funded Partially or Fully Through SSA Award, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.2 Academic Advising – Academic Year 2014-15																
STEM-specific academic advising	12	x	x	x	x	x	x	x	x	x	x			x		x
Intrusive advising	7	x	x		x			x		x	x			x		
Professional development for advisors	3					x	x							x		
Advising software	6		x		x			x	x	x	x					
Other	0															
2.2 Academic Advising – Summer 2015																
STEM-specific academic advising	10	x	x		x	x	x		x	x	x			x		x
Intrusive advising	9	x	x		x	x	x		x	x				x		x
Professional development for advisors	3					x	x							x		
Advising software	0															
Other	1	1														

Table 10: Academic Advising Activities, by SSA Funding, Year 2 Site Count, N=15						
	Academic Year 2014–15			**Summer 2015**		
Activity	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
STEM-specific academic advising	12	3	0	10	3	2
Intrusive advising	7	5	3	9	2	4
Professional development for advisors	3	8	4	3	4	8
Advising software	0	6	9	0	6	9
Other	0	0	15	1	0	14

Academic Support

Table 11: Academic Supports Funded Partially or Fully Through SSA Award, by Site, Year 2															
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.5 Academic Support – Academic Year 2014-15																
Peer tutoring	10	x	x	x	x			x		x		x	x		x	x
Professional tutoring	14	x	x	x	x	x	x	x	x	x		x	x	x	x	x
Supplemental instruction or facilitated study groups	8	x	x	x	x	x				x			x			x
College skills events or speakers	4		x					x	x	x						
Block scheduling	1									x						
STEM-specific orientations	6	x			x		x	x		x			x			
Other	0															
2.5 Academic Support – Summer 2015																
Peer tutoring	11	x	x	x	x				x	x	x	x	x		x	x
Professional tutoring	12		x	x	x	x	x		x		x	x	x	x	x	x
Supplemental instruction or facilitated study groups	6	x	x		x	x					x					x
College skills events or speakers	7					x		x	x	x	x		x			x
Block scheduling	0															
STEM-specific orientations	9	x			x	x	x	x			x	x	x	x		
Other	0															

Table 12: Academic Supports by Sites, Year 2 Site Count, N=15					
	Academic Year 2014–15			Summer 2015		
Supports	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Peer tutoring	10	4	1	11	3	1
Professional tutoring	14	1	0	12	2	1
Supplemental instruction or facilitated study groups	8	4	3	6	2	7
College skills events or speakers	4	7	4	7	4	4
Block scheduling	1	3	11	0	2	13
STEM-specific orientations	6	2	7	9	2	4
Other	0	0	15	0	0	15

Social Support

Table 13: Social Support Funded Partially or Fully Through SSA Award, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.10 Social Support – Academic Year 2014-15																
Cohort meetings	8	x			x		x	x	x	x	x					x
Cohort activities	10	x	x		x		x	x	x	x	x		x			x
Peer mentors	8	x		x			x	x		x		x	x			x
Coaching/support from SSA coordinator	13	x	x	x	x	x	x	x	x	x	x	x		x		x
Study or gathering space for SSA/STEM students	7	x	x		x		x		x	x						x
Other	0															
2.10 Social Support – Summer 2015																
Cohort meetings	9	x			x	x	x	x	x	x	x					x
Cohort activities	11	x	x		x	x	x	x	x	x	x			x		x
Peer mentors	6	x		x					x	x		x				x
Coaching/support from SSA coordinator	13	x	x	x	x	x	x	x	x	x	x	x		x		x
Study or gathering space for SSA/STEM students	9	x	x		x	x	x		x	x	x					x
Other	0															

Table 14: Social Supports by Sites, Year 2 Site Count, N=15					
	Academic Year 2014–15			Summer 2015		
Supports	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Cohort meetings	8	2	5	9	1	5
Cohort activities	10	1	4	11	1	4
Peer mentors	8	2	5	6	0	9
Support/coaching from SSA coordinator	13	1	1	13	1	1
Study or gathering space for SSA/STEM students	7	5	3	9	3	3
Other	0	0	15	0	0	15

Financial Support

Table 15: Financial Supports Funded Partially or Fully Through SSA Award, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.6 Financial Support – Academic Year 2014-15																
Scholarships	7	x			x	x	x			x		x	x			
Participation stipends	4	x			x			x		x						
Book vouchers	6		x	x						x		x	x	x		
Textbook lending	3	x										x	x			
Paid internships	4					x		x	x	x						
Other	1			x												
2.6 Financial Support – Summer 2015																
Scholarships	7	x			x	x	x			x		x		x		
Participation stipends	7				x	x		x				x	x			x	x
Book vouchers	8	x	x	x	x						x	x	x	x		
Textbook lending	8	x			x	x				x		x	x	x		x	
Paid internships	4					x		x	x	x						
Other	2			x												x

Table 16: Financial Supports by Sites, Year 2 Site Count, N=15						
	Academic Year 2014–15			**Summer 2015**		
Supports	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Scholarships	7	4	4	7	3	5
Participation stipends	4	0	11	7	0	8
Book vouchers	6	2	7	8	1	6
Textbook lending	3	5	7	8	0	7
Paid internships	4	4	7	4	2	9
Other	1	0	14	0	0	15

Equipment or Infrastructure Investments

Table 17: Equipment or Infrastructure Investments Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.12 Equipment or infrastructure investments – Academic Year 2014-15																
Classroom technology	11	x			x	x	x	x	x	x	x		x	x		x
Laboratory equipment	12	x			x	x	x	x	x	x	x	x	x	x		x
Software	5					x		x	x	x	x					
Other	3	x		x	x											
2.12 Equipment or infrastructure investments – Summer 2015																
Classroom technology	6				x	x		x	x	x				x		
Laboratory equipment	6	x			x	x			x			x		x		
Software	4								x	x	x	x				
Other	1										1					

Table 18: Equipment and Infrastructure Investments by Sites, Year 2 — Site Count, N=15	Academic Year 2014–15			Summer 2015		
Investments	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Classroom technology	11	1	3	6	2	7
Laboratory equipment	12	1	2	6	3	6
Software	5	1	9	4	2	9
Other	3	0	12	1	0	14

Career Exploration

Table 19: Career Exploration Activities Funded Partially or Fully Through SSA Award, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.4 Career Exploration – Academic Year 2014-15																
Career advising	9	x	x					x	x	x	x	x				x	x
Career exploration speakers or events targeted to **current students**	10	x	x	x	x			x	x		x	x			x		x
Career exploration speakers or events targeted to **incoming students**	4						x				x	x			x		
Career exploration speakers or events targeted to **high school students**	9	x	x		x			x	x		x	x	x		x		
Career exploration field trips	6		x					x	x		x	x			x		
Internships	3							x	x	x							
Research opportunities	4					x	x	x	x								
Professional mentorship	2							x	x								
Other	0																
2.4 Career Exploration – Summer 2015																
Career advising	9		x			x	x	x	x	x	x					x	x
Career exploration speakers or events targeted to **current students**	12	x	x		x	x	x	x	x		x	x		x	x	x	x
Career exploration speakers or events targeted to **incoming students**	5	x					x		x			x		x			
Career exploration speakers or events targeted to **high school students**	4		x				x					x		x			
Career exploration field trips	9	x				x	x		x		x	x		x	x	x	
Internships	4				x			x	x	x							
Research opportunities	5	x			x				x	x					x		
Professional mentorship	3							x	x						x		
Other	0																

Table 20: Career Exploration Activities, by SSA Funding, Year 2 Site Count, N=15						
	Academic Year 2014–15			**Summer 2015**		
Activity	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Career advising	9	5	1	9	4	2
Career exploration speakers or events targeted to **current students**	10	4	1	12	0	3
Career exploration speakers or events targeted to **incoming students**	4	4	7	5	3	7
Career exploration speakers or events targeted to **high school students**	9	2	4	4	1	10
Career exploration field trips	6	3	6	9	0	6
Internships	3	9	3	4	7	4
Research opportunities	4	4	7	5	4	6
Professional mentorship	2	3	10	3	3	9
Other	0	0	15	0	0	15

Transfer Exploration

Table 21: Transfer Exploration Activities Funded Partially or Fully Through SSA Award, by Site, Year 2																
	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.3 Transfer Exploration – Academic Year 2014-15																
Transfer-specific advising for STEM students	6		x	x			x			x	x		x			
Transfer-focused events, activities, or speakers	6		x		x		x			x	x		x			
Transfer-focused field trips	3		x				x	x								
Other	0															
2.3 Transfer Exploration – Summer 2015																
Transfer-specific advising for STEM students	5		x		x		x		x							x
Transfer-focused events, activities, or speakers	5		x			x	x		x							x
Transfer-focused field trips	6				x		x		x		x				x	x
Other	0															

Table 22: Transfer Exploration Activities, by SSA Funding, Year 2 Site Count, N=15						
	Academic Year 2014–15			Summer 2015		
Activity	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Transfer-specific advising for STEM students	6	9	0	5	9	1
Transfer-focused events, activities, or speakers	6	9	0	5	5	5
Transfer-focused field trips	3	8	4	6	4	5
Other	0	1	14	0	1	14

Industry Engagement

Table 23: Industry Engagement Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.9 Industry Engagement – Academic Year 2014-15																
Industry speakers or instructors	7		x		x			x		x	x			x		x
Industry-aligned curriculum development	1							x								
Industry advisory boards	1							x								
Industry-based internships	2							x		x						
Other	2							x		x						
2.9 Industry Engagement – Summer 2015																
Industry speakers or instructors	10	x	x					x	x	x	x	x		x	x	x
Industry-aligned curriculum development	1							x								
Industry advisory boards	0															
Industry-based internships	2							x		x						
Other	0															

Table 24: Industry Engagement Activities by Sites, Year 2 Site Count, N=15	Academic Year 2014–15			Summer 2015		
Activities	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Industry speakers or instructors	7	5	3	10	1	4
Industry-aligned curriculum development	1	9	5	1	6	8
Industry advisory boards	1	9	5	0	6	9
Industry-based internships	2	9	4	2	8	5
Other	2	0	13	0	0	15

Professional Development

Table 25: Professional Development Funded Partially or Fully Through SSA Award, by Site, Year 2	Total sites	Berkshire	Bristol	Bunker Hill	Cape Cod	Greenfield	Holyoke	Mass Bay	Massasoit	Middlesex	Mt. Wachusett	North Shore	Northern Essex	Quinsigamond	Roxbury	STCC
1.11 Professional Development – Academic Year 2014-15																
Professional development for faculty who teach STEM courses	4				x	x	x	x								
Professional development for STEM students	7		x				x	x	x	x	x					x
Professional development for advising staff	1									x						
STEM curriculum revision or development	5				x	x	x		x					x		
Other	0															
2.11 Professional Development – Summer 2015																
Professional development for faculty who teach STEM courses	3				x	x			x							
Professional development for STEM students	5	x						x	x	x	x					
Professional development for advising staff	7		x		x	x	x			x			x		x	
STEM curriculum revision or development	4				x	x	x							x		
Other	0															

Table 26: Professional Development Activities by Sites, Year 2 Site Count, N=15	Academic Year 2014–15			Summer 2015		
Activities	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place	Implemented with at least partial SSA support / funding	Implemented without SSA support / funding	Did not take place
Professional development for faculty who teach STEM courses	4	8	3	3	3	9
Professional development for STEM students	7	1	7	5	0	10
Professional development for advising staff	1	11	3	0	7	8
STEM curriculum revision or development	5	7	3	4	5	6
Other	0	0	15	0	0	15

SSA Year 2 Primary and Secondary Participant Data

Table 1: SSA Participants by Term and Year			
Year	**Term**	**Number of primary participants***	**Number of secondary participants**[†]
Year 1 (Pilot)	Spring 2014	448	5,662
	Summer 2014	786	2,545
Year 2	Fall 2014	2,769	1,741
	Spring 2015	2,949	5,018
	Summer 2015	882	1,742
Year 3	Fall 2015	2,237	4,192
	Total	10,071	20,900

Note: For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

[*] Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

[†] Secondary participants are individuals who are not currently enrolled at a community college and participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who do not have an ID number assigned by their college).

Table 1: SSA Participants by Term and Year							
Year	**Year 1 (Pilot)**		**Year 2 (Phase 1)**			**Year 3**	
Term	**Spring 2014**	**Summer 2014**	**Fall 2014**	**Spring 2015**	**Summer 2015**	**Fall 2015**	**Totals**
Number of primary participants*	448	786	2,769	2,949	882	2,237	10,071
Number of secondary participants[†]	5,662	2,545	1,741	5,018	1,742	4,192	20,900

[*] Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).
[†] Secondary participants are individuals who are not currently enrolled at a community college and participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who do not have an ID number assigned by their college).

Institution	Grant Year	Term	Primary participants	Secondary participants
Berkshire	Year 1	Spring 2014	0	84
		Summer 2014	21	144
	Year 2	Fall 2014	67	343
		Spring 2015	28	178
		Summer 2015	32	0
	Year 3	Fall 2015	66	702
Bristol	Year 1	Spring 2014	13	392
		Summer 2014	76	219
	Year 2	Fall 2014	59	348
		Spring 2015	71	422
		Summer 2015	81	279
	Year 3	Fall 2015	52	245
Bunker Hill	Year 1	Spring 2014	0	0
		Summer 2014	61	0
	Year 2	Fall 2014	40	0
		Spring 2015	90	0
		Summer 2015	57	0
	Year 3	Fall 2015	108	0
Cape Cod	Year 1	Spring 2014	0	299
		Summer 2014	5	405
	Year 2	Fall 2014	300	151
		Spring 2015	320	875
		Summer 2015	103	1,212
	Year 3	Fall 2015	348	1,541
Greenfield	Year 1	Spring 2014	0	115
		Summer 2014	18	235
	Year 2	Fall 2014	4	305
		Spring 2015	9	214
		Summer 2015	19	0
	Year 3	Fall 2015	11	0
Holyoke	Year 1	Spring 2014	0	770
		Summer 2014	72	15
	Year 2	Fall 2014	149	18
		Spring 2015	22	1,262
		Summer 2015	66	0
	Year 3	Fall 2015	0	0
MassBay	Year 1	Spring 2014	0	477
		Summer 2014	154	0
	Year 2	Fall 2014	374	4
		Spring 2015	490	417
		Summer 2015	84	133
	Year 3	Fall 2015	231	350
Massasoit	Year 1	Spring 2014	0	850
		Summer 2014	48	110
	Year 2	Fall 2014	643	0
		Spring 2015	715	40
		Summer 2015	29	0
	Year 3	Fall 2015	524	0

Table 1A: SSA Participants by Term and Year, by Institution

Table 1A: SSA Participants by Term and Year, by Institution				
Institution	Grant Year	Term	Primary participants	Secondary participants
Middlesex	Year 1	Spring 2014	101	152
		Summer 2014	45	0
	Year 2	Fall 2014	172	0
		Spring 2015	173	204
		Summer 2015	137	31
	Year 3	Fall 2015	158	493
Mt. Wachusett	Year 1	Spring 2014	236	449
		Summer 2014	137	0
	Year 2	Fall 2014	337	0
		Spring 2015	416	288
		Summer 2015	18	0
	Year 3	Fall 2015	385	11
North Shore	Year 1	Spring 2014	0	250
		Summer 2014	55	1,220
	Year 2	Fall 2014	75	400
		Spring 2015	126	250
		Summer 2015	70	30
	Year 3	Fall 2015	23	30
Northern Essex	Year 1	Spring 2014	2	209
		Summer 2014	16	0
	Year 2	Fall 2014	233	138
		Spring 2015	117	13
		Summer 2015	108	11
	Year 3	Fall 2015	64	1
Quinsigamond	Year 1	Spring 2014	79	845
		Summer 2014	36	197
	Year 2	Fall 2014	265	34
		Spring 2015	311	114
		Summer 2015	0	29
	Year 3	Fall 2015	97	389
Roxbury	Year 1	Spring 2014	17	240
		Summer 2014	9	0
	Year 2	Fall 2014	7	0
		Spring 2015	7	0
		Summer 2015	––	––
	Year 3	Fall 2015	91	0
STCC	Year 1	Spring 2014	0	530
		Summer 2014	33	0
	Year 2	Fall 2014	44	0
		Spring 2015	54	741
		Summer 2015	78	17
	Year 3	Fall 2015	79	430

Participation and Outcomes

Table 2: Primary Participants' Service Descriptions by Term and Year					
Year	**Term**	**Number of primary participants***	**Number of primary participants who received direct (SSA grant subsidized) financial support**	**Number of primary participants who received extra or targeted supports**	**Number of primary participants who received targeted STEM pathway and/or STEM career counseling**
Year 1 (Pilot)	Spring 2014	448	111	103	101
	Summer 2014	786	758	548	505
Year 2	Fall 2014	2,769	1,341	2,002	913
	Spring 2015	2,949	1,079	1,890	942
	Summer 2015	882	455	618	559
Year 3	Fall 2015	2,237	819	1,338	805
	Total	10,071	4,563	6,499	3,825

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

Institution	Grant Year	Term	Number of primary participants	Number of primary participants who received direct (SSA grant subsidized) financial support	Number of primary participants who received extra or targeted supports	Number of primary participants who received targeted STEM pathway and/or STEM career counseling
Table 2A: Primary Participants' Service Descriptions by Term and Year, by Institution						
Berkshire	Year 1	Spring 2014	0	0	0	0
		Summer 2014	21	21	21	21
	Year 2	Fall 2014	67	67	21	18
		Spring 2015	28	23	19	19
		Summer 2015	32	32	32	32
	Year 3	Fall 2015	66	57	31	45
Bristol	Year 1	Spring 2014	13	13	13	13
		Summer 2014	76	76	34	45
	Year 2	Fall 2014	59	17	39	49
		Spring 2015	71	18	52	29
		Summer 2015	81	35	21	27
	Year 3	Fall 2015	52	15	22	37
Bunker Hill	Year 1	Spring 2014	0	0	0	0
		Summer 2014	61	61	61	61
	Year 2	Fall 2014	40	40	40	40
		Spring 2015	90	90	90	90
		Summer 2015	57	57	57	57
	Year 3	Fall 2015	108	108	108	108
Cape Cod	Year 1	Spring 2014	0	0	0	0
		Summer 2014	5	5	5	5
	Year 2	Fall 2014	300	29	300	46
		Spring 2015	320	37	98	98
		Summer 2015	103	31	103	103
	Year 3	Fall 2015	348	20	273	99
Greenfield	Year 1	Spring 2014	0	0	0	0
		Summer 2014	18	18	12	18
	Year 2	Fall 2014	4	0	4	4
		Spring 2015	9	0	7	0
		Summer 2015	19	19	19	19
	Year 3	Fall 2015	11	11	11	0
Holyoke	Year 1	Spring 2014	0	0	0	0
		Summer 2014	72	72	71	71
	Year 2	Fall 2014	149	141	149	7
		Spring 2015	22	17	17	19
		Summer 2015	66	41	66	66
	Year 3	Fall 2015	0	0	0	0
MassBay	Year 1	Spring 2014	0	0	0	0
		Summer 2014	154	154	154	154
	Year 2	Fall 2014	374	5	306	70
		Spring 2015	490	15	292	264
		Summer 2015	84	14	20	72
	Year 3	Fall 2015	231	1	41	197
Massasoit	Year 1	Spring 2014	0	0	0	0
		Summer 2014	48	48	48	0
	Year 2	Fall 2014	643	643	643	0
		Spring 2015	715	715	702	0
		Summer 2015	29	29	29	0
	Year 3	Fall 2015	524	524	524	0

Institution	Grant Year	Term	Number of primary participants	Number of primary participants who received direct (SSA grant subsidized) financial support	Number of primary participants who received extra or targeted supports	Number of primary participants who received targeted STEM pathway and/or STEM career counseling
Table 2A: Primary Participants' Service Descriptions by Term and Year, by Institution						
Middlesex	Year 1	Spring 2014	101	26	20	45
		Summer 2014	45	33	45	33
	Year 2	Fall 2014	172	16	144	148
		Spring 2015	173	9	173	97
		Summer 2015	137	47	137	120
	Year 3	Fall 2015	158	4	158	146
Mt. Wachusett	Year 1	Spring 2014	236	0	0	0
		Summer 2014	137	137	0	23
	Year 2	Fall 2014	337	0	0	235
		Spring 2015	416	0	0	8
		Summer 2015	18	18	2	16
	Year 3	Fall 2015	385	0	50	76
North Shore	Year 1	Spring 2014	0	0	0	0
		Summer 2014	55	55	55	31
	Year 2	Fall 2014	75	75	75	0
		Spring 2015	126	126	126	0
		Summer 2015	70	33	70	19
	Year 3	Fall 2015	23	23	0	0
Northern Essex	Year 1	Spring 2014	2	2	0	0
		Summer 2014	16	0	0	16
	Year 2	Fall 2014	233	5	233	228
		Spring 2015	117	20	100	0
		Summer 2015	108	71	34	0
	Year 3	Fall 2015	64	0	0	0
Quinsigamond	Year 1	Spring 2014	79	53	53	26
		Summer 2014	36	36	0	18
	Year 2	Fall 2014	265	265	0	58
		Spring 2015	311	0	177	311
		Summer 2015	0	0	0	0
	Year 3	Fall 2015	97	0	89	83
Roxbury	Year 1	Spring 2014	17	17	17	17
		Summer 2014	9	9	9	9
	Year 2	Fall 2014	7	7	7	7
		Spring 2015	7	7	7	7
		Summer 2015	–	–	–	–
	Year 3	Fall 2015	91	52	12	0
STCC	Year 1	Spring 2014	0	–	–	–
		Summer 2014	33	33	33	0
	Year 2	Fall 2014	44	31	41	3
		Spring 2015	54	2	30	0
		Summer 2015	78	28	28	28
	Year 3	Fall 2015	79	4	19	14

Participation and Outcomes

Table 3: Secondary Participant and Event Count by Term and Year			
Year	**Term**	**Number of secondary participants***	**Number of events and activities**
Year 1 (Pilot)	Spring 2014	5,662	173
	Summer 2014	2,545	49
Year 2	Fall 2014	1,741	56
	Spring 2015	5,018	156
	Summer 2015	1,742	40
Year 3	Fall 2015	4,192	100
	Total	20,900	574

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Secondary participants are individuals who are not currently enrolled at a community college and participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who do not have an ID number assigned by their college).

Table 3A: SSA Participants by Term and Year, by Institution				
Institution	Grant Year	Term	Secondary participants	Number of events and activities
Berkshire	Year 1	Spring 2014	84	26
		Summer 2014	144	5
	Year 2	Fall 2014	343	15
		Spring 2015	178	17
		Summer 2015	0	0
	Year 3	Fall 2015	702	25
Bristol	Year 1	Spring 2014	392	11
		Summer 2014	219	10
	Year 2	Fall 2014	348	10
		Spring 2015	422	20
		Summer 2015	279	3
	Year 3	Fall 2015	245	6
Bunker Hill	Year 1	Spring 2014	0	0
		Summer 2014	0	0
	Year 2	Fall 2014	0	0
		Spring 2015	0	0
		Summer 2015	0	0
	Year 3	Fall 2015	0	0
Cape Cod	Year 1	Spring 2014	299	7
		Summer 2014	405	6
	Year 2	Fall 2014	151	7
		Spring 2015	875	24
		Summer 2015	1,212	19
	Year 3	Fall 2015	1,541	26
Greenfield	Year 1	Spring 2014	115	4
		Summer 2014	235	9
	Year 2	Fall 2014	305	3
		Spring 2015	214	12
		Summer 2015	0	0
	Year 3	Fall 2015	0	0
Holyoke	Year 1	Spring 2014	770	24
		Summer 2014	15	5
	Year 2	Fall 2014	18	1
		Spring 2015	1,262	13
		Summer 2015	0	0
	Year 3	Fall 2015	0	0
MassBay	Year 1	Spring 2014	477	5
		Summer 2014	0	0
	Year 2	Fall 2014	4	2
		Spring 2015	417	14
		Summer 2015	133	8
	Year 3	Fall 2015	350	14
Massasoit	Year 1	Spring 2014	850	23
		Summer 2014	110	3
	Year 2	Fall 2014	0	0
		Spring 2015	40	10
		Summer 2015	0	0
	Year 3	Fall 2015	0	0

Table 3A: SSA Participants by Term and Year, by Institution				
Institution	Grant Year	Term	Secondary participants	Number of events and activities
Middlesex	Year 1	Spring 2014	152	3
		Summer 2014	0	0
	Year 2	Fall 2014	0	0
		Spring 2015	204	9
		Summer 2015	31	1
	Year 3	Fall 2015	493	6
Mt. Wachusett	Year 1	Spring 2014	449	43
		Summer 2014	0	0
	Year 2	Fall 2014	0	0
		Spring 2015	288	10
		Summer 2015	0	0
	Year 3	Fall 2015	11	1
North Shore	Year 1	Spring 2014	250	3
		Summer 2014	1,220	4
	Year 2	Fall 2014	400	7
		Spring 2015	250	4
		Summer 2015	30	5
	Year 3	Fall 2015	30	1
Northern Essex	Year 1	Spring 2014	209	6
		Summer 2014	0	0
	Year 2	Fall 2014	138	4
		Spring 2015	13	1
		Summer 2015	11	1
	Year 3	Fall 2015	1	1
Quinsigamond	Year 1	Spring 2014	845	8
		Summer 2014	197	7
	Year 2	Fall 2014	34	7
		Spring 2015	114	2
		Summer 2015	29	2
	Year 3	Fall 2015	389	7
Roxbury	Year 1	Spring 2014	240	2
		Summer 2014	0	0
	Year 2	Fall 2014	0	0
		Spring 2015	0	0
		Summer 2015	-	-
	Year 3	Fall 2015	0	0
STCC	Year 1	Spring 2014	530	8
		Summer 2014	0	0
	Year 2	Fall 2014	0	0
		Spring 2015	741	20
		Summer 2015	17	1
	Year 3	Fall 2015	430	13

Participation and Outcomes

Table 4: Student Status at Point of Entry to SSA, Fall 2014 and Fall 2015							
Term	**First-time freshman**	**Transfer**	**Readmitted/ reactivated**	**Non-degree**	**Dual-enrolled**	**Continuing**	**Indeterminate status**
Fall 2014	784	111	67	33	92	1,037	456
Fall 2015	458	92	29	27	49	626	432
Total	1,242	203	96	60	141	1,663	888

Institution	Term	First-time freshmen	Transfer	Re-admitted/ re-activated	Non-degree	Dual-enrolled	Continuing	Indeterminate status
Table 4A: Student Status at Point of Entry to SSA Fall 2014 and Fall 2015, by Institution								
Berkshire	Fall 2014	0	0	0	0	46	0	0
	Fall 2015	0	0	1	1	15	3	0
Bristol	Fall 2014	4	2	1	0	0	10	8
	Fall 2015	5	1	1	0	0	8	6
Bunker Hill	Fall 2014	13	9	0	1	0	17	0
	Fall 2015	11	11	1	1	0	78	1
Cape Cod	Fall 2014	57	20	18	7	6	189	0
	Fall 2015	71	10	14	11	9	116	0
Greenfield	Fall 2014	0	0	0	0	0	0	0
	Fall 2015	0	0	0	0	10	0	1
Holyoke	Fall 2014	57	14	5	0	1	61	0
	Fall 2015	0	0	0	0	0	0	0
Mass Bay	Fall 2014	128	11	0	7	1	202	5
	Fall 2015	51	5	0	4	2	77	3
Massasoit	Fall 2014	353	25	9	6	8	172	43
	Fall 2015	253	37	0	7	0	143	1
Middlesex	Fall 2014	22	11	0	3	3	106	6
	Fall 2015	10	12	0	1	1	81	5
Mt. Wachusett	Fall 2014	0	0	0	0	22	0	312
	Fall 2015	1	0	0	0	11	10	350
North Shore	Fall 2014	0	0	0	0	0	0	74
	Fall 2015	0	3	1	0	0	16	0
Northern Essex	Fall 2014	117	13	25	1	1	72	4
	Fall 2015	8	8	6	1	0	40	0
Quinsigamond	Fall 2014	32	6	9	8	4	198	4
	Fall 2015	38	5	1	1	1	31	6
Roxbury	Fall 2014	0	0	0	0	0	0	0
	Fall 2015	9	0	4	0	0	19	59
STCC	Fall 2014	1	0	0	0	0	10	0
	Fall 2015	1	0	0	0	0	4	0

Participation and Outcomes

Table 5: Primary Participant* Gender by Year						
Year	**Term**	**Male**		**Female**		**Total Number**
		#	**%**	**#**	**%**	
Year 1 (Pilot)	Spring 2014	184	41.1%	218	48.7%	448
	Summer 2014	382	48.6%	376	47.8%	786
Year 2	Fall 2014	1,223	44.2%	1,370	49.5%	2,769
	Spring 2015	1,358	46.0%	1,364	46.3%	2,949
	Summer 2015	403	45.7%	407	46.1%	882
Year 3	Fall 2015	997	44.6%	993	44.4%	2,237
	Total	4,547	—	4,728	—	10,071

Note: For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).
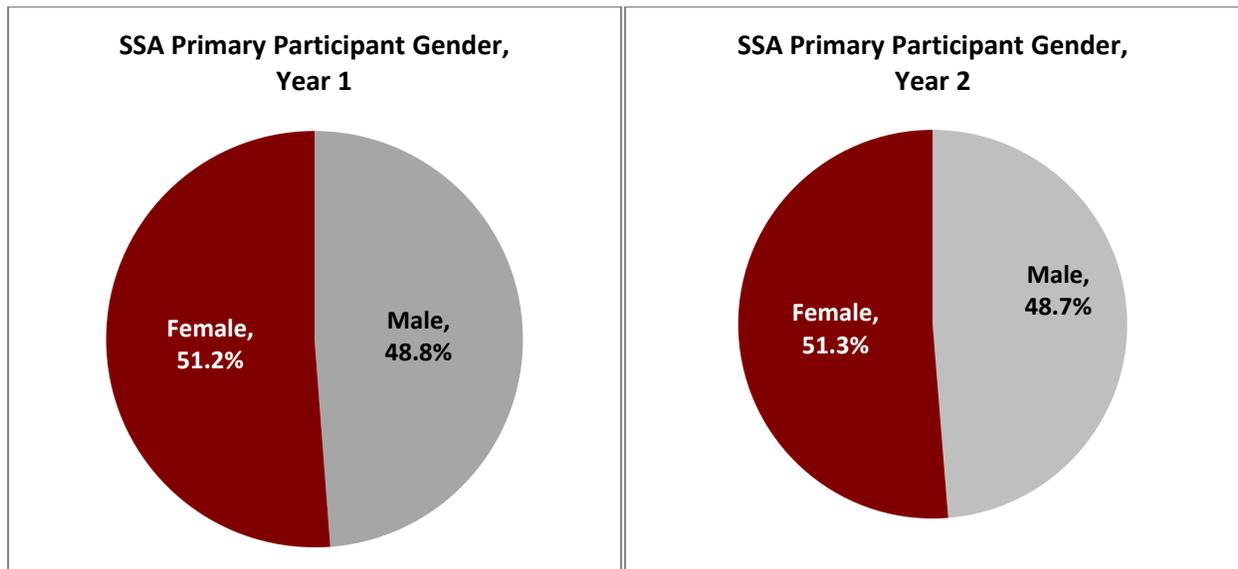
SSA Primary Participant Gender, Year 1

Female, 51.2%
Male, 48.8%

SSA Primary Participant Gender, Year 2

Female, 51.3%
Male, 48.7%

	Grant Year	Term	Male		Female		Total
			#	%	#	%	
Berkshire	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	16	76.2%	5	23.8%	21
	Year 2	Fall 2014	24	35.8%	43	64.2%	67
		Spring 2015	23	82.1%	5	17.9%	28
		Summer 2015	19	59.4%	13	40.6%	32
	Year 3	Fall 2015	35	53.0%	31	47.0%	66
Bristol	Year 1	Spring 2014	7	53.8%	6	46.2%	13
		Summer 2014	45	59.2%	31	40.8%	76
	Year 2	Fall 2014	33	55.9%	25	42.4%	59
		Spring 2015	45	63.4%	25	35.2%	71
		Summer 2015	55	67.9%	26	32.1%	81
	Year 3	Fall 2015	40	76.9%	11	21.2%	52
Bunker Hill	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	29	47.5%	32	52.5%	61
	Year 2	Fall 2014	23	57.5%	17	42.5%	40
		Spring 2015	52	57.8%	38	42.2%	90
		Summer 2015	29	50.9%	28	49.1%	57
	Year 3	Fall 2015	60	55.6%	48	44.4%	108
Cape Cod	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	3	60.0%	2	40.0%	5
	Year 2	Fall 2014	120	40.0%	180	60.0%	300
		Spring 2015	157	49.1%	163	50.9%	320
		Summer 2015	44	42.7%	57	55.3%	103
	Year 3	Fall 2015	161	46.3%	186	53.4%	348
Greenfield	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	7	38.9%	11	61.1%	18
	Year 2	Fall 2014	2	50.0%	2	50.0%	4
		Spring 2015	4	44.4%	5	55.6%	9
		Summer 2015	7	36.8%	4	21.1%	19
	Year 3	Fall 2015	6	54.5%	4	36.4%	11
Holyoke	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	21	29.2%	37	51.4%	72
	Year 2	Fall 2014	57	38.3%	92	61.7%	149
		Spring 2015	9	40.9%	13	59.1%	22
		Summer 2015	19	28.8%	28	42.4%	66
	Year 3	Fall 2015	0	0.00%	0	0.00%	0
Mass Bay	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	98	63.6%	49	31.8%	154
	Year 2	Fall 2014	194	51.9%	175	46.8%	374
		Spring 2015	254	51.8%	232	47.3%	490
		Summer 2015	27	32.1%	17	20.2%	84
	Year 3	Fall 2015	157	68.0%	67	29.0%	231
Massasoit	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	26	54.2%	22	45.8%	48
	Year 2	Fall 2014	317	49.3%	326	50.7%	643
		Spring 2015	323	45.2%	392	54.8%	715
		Summer 2015	14	48.3%	15	51.7%	29
	Year 3	Fall 2015	215	41.0%	308	58.8%	524
Middlesex	Year 1	Spring 2014	44	43.6%	57	56.4%	101
		Summer 2014	26	57.8%	19	42.2%	45
	Year 2	Fall 2014	77	44.8%	95	55.2%	172
		Spring 2015	61	35.3%	109	63.0%	173
		Summer 2015	54	39.4%	81	59.1%	137
	Year 3	Fall 2015	48	30.4%	108	68.4%	158

Table 5a: Primary Participant Gender by Year and Institution

	Grant Year	Term	Male		Female		Total
			#	%	#	%	
Table 5a: Primary Participant Gender by Year and Institution							
Mt. Wachusett	Year 1	Spring 2014	94	39.8%	99	41.9%	236
		Summer 2014	40	29.2%	94	68.6%	137
	Year 2	Fall 2014	89	26.4%	85	25.2%	337
		Spring 2015	124	29.8%	115	27.6%	416
		Summer 2015	8	44.4%	10	55.6%	18
	Year 3	Fall 2015	118	30.6%	89	23.1%	385
North Shore	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	31	56.4%	24	43.6%	55
	Year 2	Fall 2014	28	37.3%	40	53.3%	75
		Spring 2015	59	46.8%	67	53.2%	126
		Summer 2015	49	70.0%	21	30.0%	70
	Year 3	Fall 2015	13	56.5%	10	43.5%	23
Northern Essex	Year 1	Spring 2014	2	100.0%	0	0.0%	2
		Summer 2014	5	31.3%	8	50.0%	16
	Year 2	Fall 2014	71	30.5%	162	69.5%	233
		Spring 2015	41	35.0%	76	65.0%	117
		Summer 2015	30	27.8%	77	71.3%	108
	Year 3	Fall 2015	30	46.9%	34	53.1%	64
Quinsigamond	Year 1	Spring 2014	33	41.8%	43	54.4%	79
		Summer 2014	21	58.3%	14	38.9%	36
	Year 2	Fall 2014	164	61.9%	101	38.1%	265
		Spring 2015	174	55.9%	95	30.5%	311
		Summer 2015	0	0.00%	0	0.00%	0
	Year 3	Fall 2015	56	57.7%	39	40.2%	97
Roxbury	Year 1	Spring 2014	4	23.5%	13	76.5%	17
		Summer 2014	0	0.0%	9	100.0%	9
	Year 2	Fall 2014	4	57.1%	3	42.9%	7
		Spring 2015	4	57.1%	3	42.9%	7
		Summer 2015	—	—	—	—	—
	Year 3	Fall 2015	13	14.3%	24	26.4%	91
STCC	Year 1	Spring 2014	0	0.00%	0	0.00%	0
		Summer 2014	14	42.4%	19	57.6%	33
	Year 2	Fall 2014	20	45.5%	24	54.5%	44
		Spring 2015	28	51.9%	26	48.1%	54
		Summer 2015	48	61.5%	30	38.5%	78
	Year 3	Fall 2015	45	57.0%	34	43.0%	79

Participation and Outcomes

Table 6: SSA Primary Participants' Enrollment Status									
Year	Term	Number of primary participants*	Number of enrolled primary participants	Number of newly enrolled students (only fall)	Number of continuing students (only fall)	Number of dually-enrolled students	Number of non-degree seeking students (only fall)	Average total number of credit hours accumulated by enrolled students prior to the current semester (only fall)		Number of students with no data
								Mean	Standard deviation	
Year 1 (Pilot)	Spring 2014	448	436	—	—	61	—	—	—	12
	Summer 2014	786	—	—	—	104	—	—	—	—
Year 2	Fall 2014	2,769	2,304	1,077	1,095	95	34	27.40	23.06	465
	Spring 2015	2,949	2,866	—	—	163	—	—	—	83
	Summer 2015	882	—	—	—	41	—	—	—	—
Year 3	Fall 2015	2,237	1,783	671	1,029	52	27	29.91	22.34	454
	Total	10,071	7,389	1,748	2,124	516	61	27.29	23.67	2,682

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

Institution	Grant Year	Term	Number of primary participants	Number of enrolled primary participants	Number of newly enrolled students (only fall)	Number of continuing students (only fall)	Number of dually-enrolled students	Number of non-degree seeking students (only fall)	Average total number of credit hours accumulated by enrolled students prior to the current semester (only fall)		Number of students with no data (= ColB - ColC)
									Mean	Standard Deviation	
Berkshire	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	21	—	—	—	0	—	—	—	21
	Year 2	Fall 2014	67	67	21	0	46	0	3.625	4.178750593	0
		Spring 2015	28	28	—	—	0	—	—	—	0
		Summer 2015	32	—	—	—	0	—	—	—	32
	Year 3	Fall 2015	66	65	31	17	16	1	13.65306122	18.60953051	1
Bristol	Year 1	Spring 2014	13	13	—	—	1	—	—	—	0
		Summer 2014	76	—	—	—	0	—	—	—	76
	Year 2	Fall 2014	59	51	28	22	0	1	33.84782609	32.70199953	8
		Spring 2015	71	69	—	—	0	—	—	—	2
		Summer 2015	81	—	—	—	2	—	—	—	81
	Year 3	Fall 2015	52	46	11	34	0	0	35.325	30.40781571	6
Bunker Hill	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	61	—	—	—	0	—	—	—	61
	Year 2	Fall 2014	40	40	22	17	0	1	15.52	9.721625379	0
		Spring 2015	90	90	—	—	0	—	—	—	0
		Summer 2015	57	—	—	—	0	—	—	—	57
	Year 3	Fall 2015	108	107	24	82	0	1	36.6122449	24.29230613	1
Cape Cod	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	5				0				5
	Year 2	Fall 2014	300	300	98	189	6	7	25.73364486	17.70623849	0
		Spring 2015	320	320	—	—	6	—	—	—	0
		Summer 2015	103	—	—	—	1	—	—	—	103
	Year 3	Fall 2015	348	348	108	219	10	11	26.24	17.93200007	0
Greenfield	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	18	—	—	—	1	—	—	—	18
	Year 2	Fall 2014	4	4	2	0	2	0	10.5	13	0
		Spring 2015	9	9	—	—	5	—	—	—	0
		Summer 2015	19	—	—	—	0	—	—	—	19
	Year 3	Fall 2015	11	10	0	0	10	0	—	—	1
Holyoke	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	72	—	—	—	30	—	—	—	72
	Year 2	Fall 2014	149	148	84	63	1	0	24.01351351	20.34664877	1
		Spring 2015	22	22	—	—	0	—	—	—	0
		Summer 2015	66	—	—	—	5	—	—	—	66
	Year 3	Fall 2015	0	—	—	—	—	—	—	—	—

Table 6A: Primary SSA Participants' Enrollment Status, by Institution

Institution	Grant Year	Term	Number of primary participants	Number of enrolled primary participants	Number of newly enrolled students (only fall)	Number of continuing students (only fall)	Number of dually-enrolled students	Number of non-degree seeking students (only fall)	Average total number of credit hours accumulated by enrolled students prior to the current semester (only fall)		Number of students with no data (= ColB - ColC)
									Mean	Standard Deviation	
Mass Bay	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	154	—	—	—	2	—	—	—	154
	Year 2	Fall 2014	374	369	146	215	1	7	21.18518519	17.9783245	5
		Spring 2015	490	490	—	—	2	—	—	—	0
		Summer 2015	84	—	—	—	1	—	—	—	84
	Year 3	Fall 2015	231	228	56	166	2	4	28.25342466	19.04398236	3
Massasoit	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	48	—	—	—	11	—	—	—	48
	Year 2	Fall 2014	643	598	411	173	8	6	17.31707317	14.44740126	45
		Spring 2015	715	715	—	—	0	—	—	—	0
		Summer 2015	29	—	—	—	0	—	—	—	29
	Year 3	Fall 2015	524	521	296	218	0	7	23.05058366	18.79518955	3
Middlesex	Year 1	Spring 2014	101	101	—	—	2	—	—	—	0
		Summer 2014	45	—	—	—	0	—	—	—	45
	Year 2	Fall 2014	172	165	38	121	3	3	43.91034483	26.9198701	7
		Spring 2015	173	172	—	—	2	—	—	—	1
		Summer 2015	137	—	—	—	0	—	—	—	137
	Year 3	Fall 2015	158	152	28	122	1	1	45.99280576	24.45211126	6
Mt. Wachusett	Year 1	Spring 2014	236	236	—	—	58	—	—	—	0
		Summer 2014	137	—	—	—	30	—	—	—	137
	Year 2	Fall 2014	337	23	0	0	23	0	3.818181818	1.401298099	314
		Spring 2015	416	416	—	—	33	—	—	—	0
		Summer 2015	18	—	—	—	0	—	—	—	18
	Year 3	Fall 2015	385	34	8	14	12	0	31.52	15.71655178	351
North Shore	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	55	—	—	—	30	—	—	—	55
	Year 2	Fall 2014	75	—	0	0	0	0	—	—	75
		Spring 2015	126	118	—	—	114	—	—	—	8
		Summer 2015	70	—	—	—	32	—	—	—	70
	Year 3	Fall 2015	23	23	7	16	0	0	32.95454545	18.12516607	0
Northern Essex	Year 1	Spring 2014	2	2	—	—	0	—	—	—	0
		Summer 2014	16	—	—	—	0	—	—	—	16
	Year 2	Fall 2014	233	229	155	72	1	1	27.60784314	25.55799341	4
		Spring 2015	117	115	—	—	0	—	—	—	2
		Summer 2015	108	—	—	—	0	—	—	—	108
	Year 3	Fall 2015	64	64	22	41	0	1	39.58823529	23.45222929	0

Table 6A: Primary SSA Participants' Enrollment Status, by Institution

									Average total number of credit hours accumulated by enrolled students prior to the current semester (only fall)		
Institution	Grant Year	Term	Number of primary participants	Number of enrolled primary participants	Number of newly enrolled students (only fall)	Number of continuing students (only fall)	Number of dually-enrolled students	Number of non-degree seeking students (only fall)	Mean	Standard Deviation	Number of students with no data (= ColB - ColC)
Quinsigamond	Year 1	Spring 2014	79	75	—	—	0	—	—	—	4
		Summer 2014	36	—	—	—	0	—	—	—	36
	Year 2	Fall 2014	265	264	48	201	4	8	39.22119816	23.17100104	1
		Spring 2014	0	—	—	—	—	—	—	—	—
		Spring 2015	311	247	—	—	1	—	—	—	64
	Year 3	Fall 2015	97	92	46	43	1	1	38.10638298	26.29864771	5
Roxbury	Year 1	Spring 2014	17	9	—	—	0	—	—	—	8
		Summer 2014	9	—	—	—	0	—	—	—	9
	Year 2	Fall 2014	7	7	0	7	0	0	3	0	0
		Spring 2015	7	7	—	—	0	—	—	—	0
		Summer 2015	—	—	—	—	—	—	—	—	—
	Year 3	Fall 2015	91	32	13	19	0	0	25.31578947	17.69511116	59
STCC	Year 1	Spring 2014	0	—	—	—	—	—	—	—	—
		Summer 2014	33	—	—	—	0	—	—	—	33
	Year 2	Fall 2014	44	39	24	15	0	0	20.40540541	21.62619227	5
		Spring 2015	54	48	—	—	0	—	—	—	6
		Summer 2015	78	—	—	—	0	—	—	—	78
	Year 3	Fall 2015	79	61	21	38	0	0	25.05	20.98863696	18

Table 6A: Primary SSA Participants' Enrollment Status, by Institution

Participation and Outcomes

	Year	Term	Non-resident Alien	Black/African American	American Indian or Alaska Native	Asian or Pacific Islander	Hispanic or Latino (of any race)	White	Cape Verdean	Two or more races	Asian	Native Hawaiian or other Pacific Islander	Race and Ethnicity Reported Unknown	Race and Ethnicity not found in HEIRS
Table 7: Students' Race/Ethnicity by Term, SSA Primary Participants and All Students														
SSA Primary Participants*	Year 1 (Pilot)	Spring 2014	4	32	1	1	87	217	3	13	26	0	62	2
		Summer 2014	5	101	1	0	135	396	7	24	49	1	57	10
	Year 2	Fall 2014	13	395	12	1	462	1,308	85	77	112	2	293	9
		Spring 2015	30	445	12	1	452	1,312	98	87	135	2	330	45
		Summer 2015	14	92	0	0	190	391	8	20	64	1	31	71
	Year 3	Fall 2015	35	306	8	2	265	932	71	56	98	1	280	183
	SSA Total		101	1,371	34	5	1,591	4,556	272	277	484	7	1,053	320
Annual Credit Total for Segment	Year 1 (Pilot)	Spring 2014	1,329	12,103	343	0	15,929	51,937	1,157	1,994	4,038	111	111	5,572
		Summer 2014	1,052	12,742	349	18	17,604	53,485	1,390	2,526	4,644	94	94	2,984
	Year 2	Fall 2014	1,458	11,755	306	0	16,053	48,398	1,643	2,225	3,945	96	96	4,536
		Spring 2015	1,293	12,165	322	15	17,504	49,828	1,247	2,455	4,458	102	102	3,230
		Summer 2015	1,329	12,103	343	0	15,929	51,937	1,157	1,994	4,038	111	111	5,572
	Year 3	Fall 2015	1,052	12,742	349	18	17,604	53,485	1,390	2,526	4,644	94	94	2,984
	Total		5,132	48,765	1,320	33	67,090	203,648	5,437	9,200	17,085	403	403	16,322

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

*Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

Community College Students, Spring 2014-Fall 2015

Two or more races, 2.2%

Cape Verdean, 1.3%

Non-resident Alien, 1.2%

American Indian or Alaska Native, 0.3%

Native Hawaiian or other Pacific Islander, 0.1%

Asian or Pacific Islander, 0.0%

Asian, 4.0%

Black or African American, 11.5%

Unknown, 7.7%

Hispanic or Latino (of any Race), 15.8%

White, 48.1%
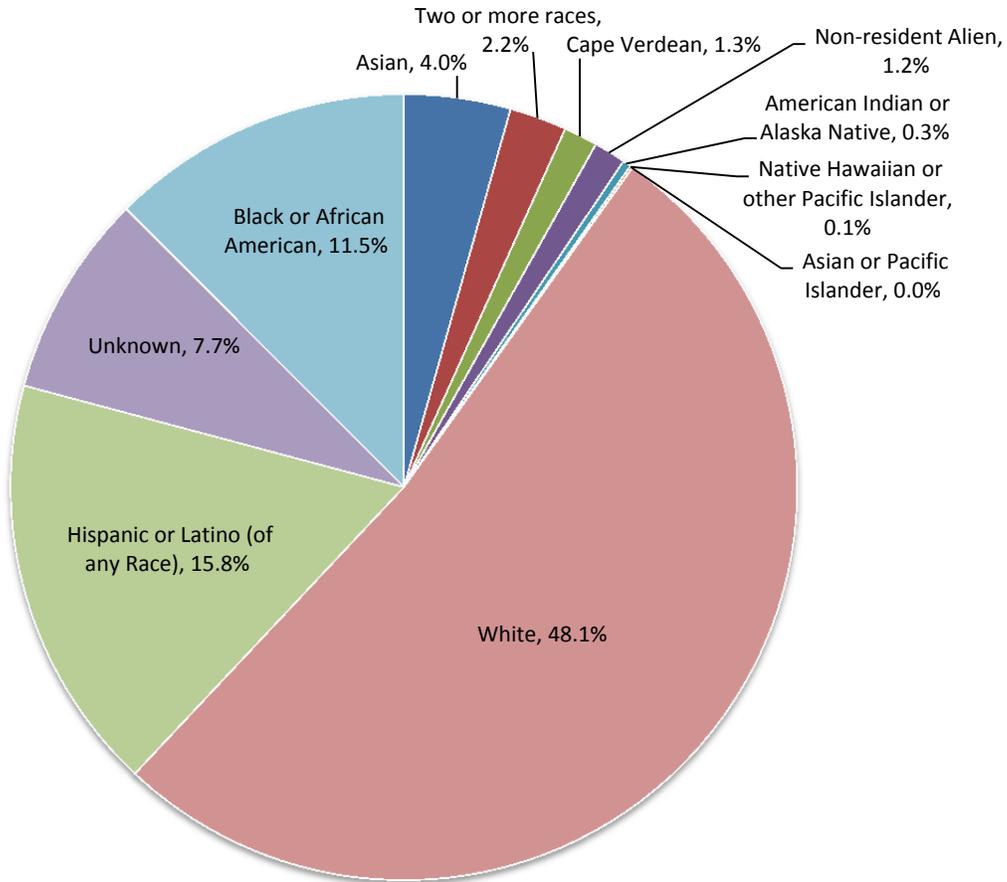
SSA Primary Participants, Spring 2014-Fall2015

Two or more races, 2.4%

Asian, 4.2%

Cape Verdean, 2.4%

Non-resident Alien, 0.9%

American Indian or Alaska Native, 0.3%

Native Hawaiian or other Pacific Islander, 0.1%

Asian or Pacific Islander, 0.0%

Black or African American, 12.0%

Unknown, 12.0%

Hispanic or Latino (of any Race), 13.9%

White, 39.8%
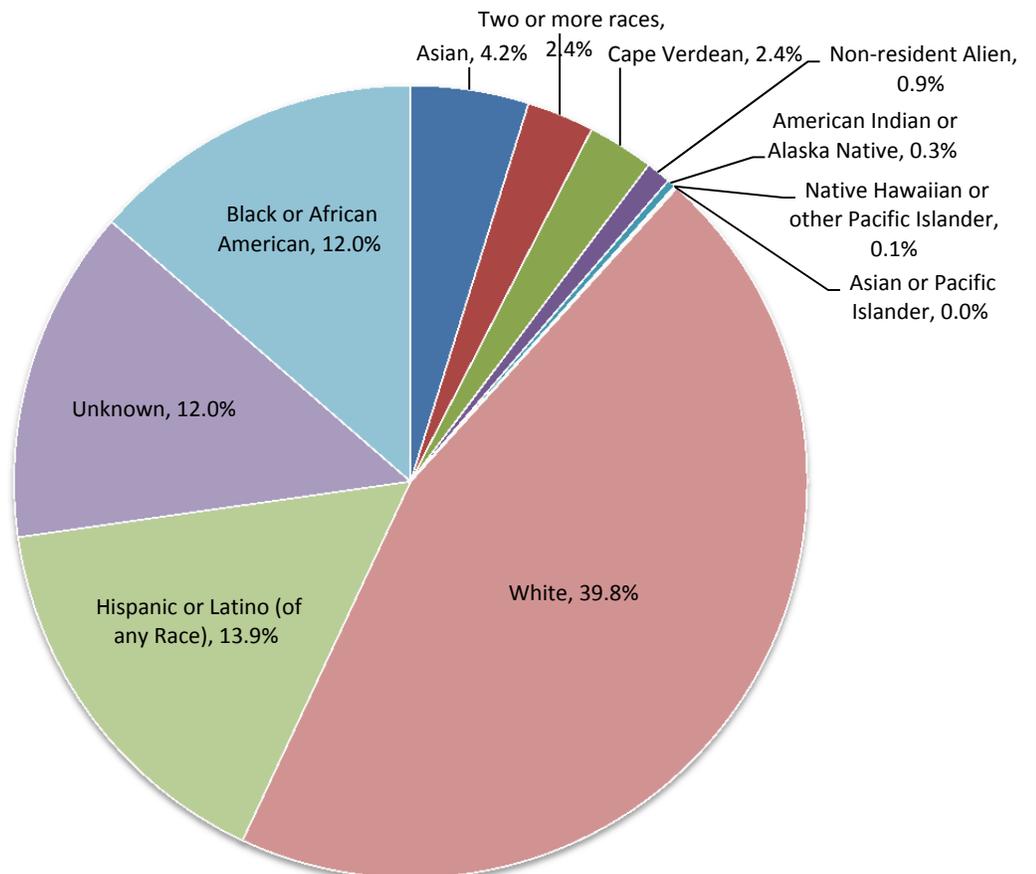
Participation and Outcomes

Student Race/Ethnicity, SSA and Community College Populations

Category	CC	SSA
White	48.1%	39.8%
Hispanic or Latino (of any Race)	15.8%	13.9%
Unknown	7.7%	12.0%
Black or African American	11.5%	12.0%
Asian	4.0%	4.2%
Two or more races	2.2%	2.4
Cape Verdean	1.3%	2.4
Non-resident Alien	1.2%	
American Indian or Alaska Native	0.3%	
Native Hawaiian or other Pacific Islander	0.1%	
Asian or Pacific Islander	0.0%	

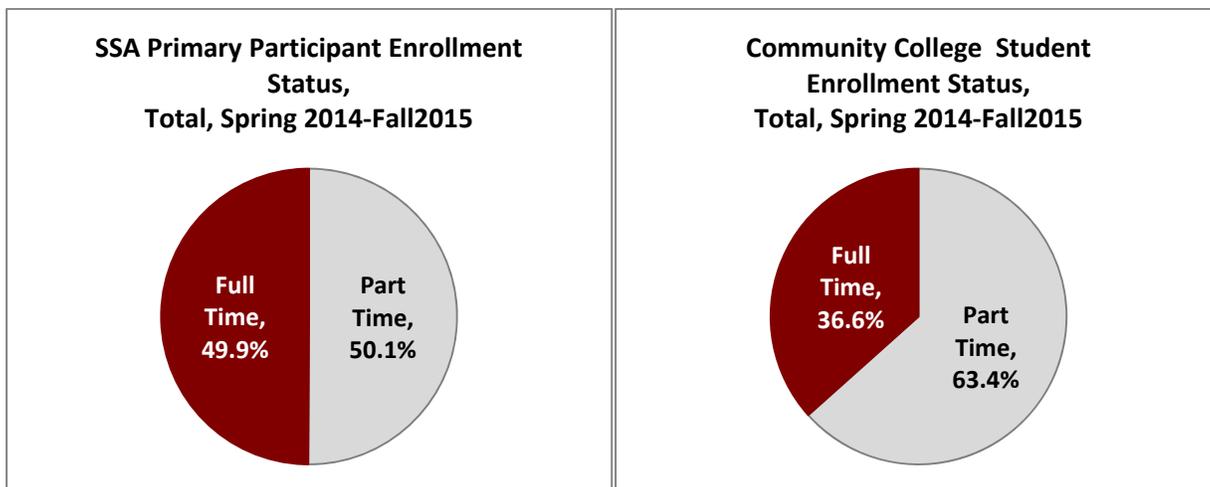|														
Table 7A: Primary SSA Participants Race/Ethnicity by Term and Insititution														
Institution	Grant Year	Term	Non-resident Alien	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Hispanic or Latino (of any Race)	White	Cape Verdean	Two or more races	Asian	Native Hawaiian or other Pacific Islander	Race and Ethnicity REPORTED Unknown	Race and Ethnicity Not found in HEIRS
Berkshire	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	2	0	0	1	16	0	1	1	0	0	0
	Year 2	Fall 2014	0	2	0	0	1	55	0	2	1	0	6	0
		Spring 2015	0	1	0	0	2	23	0	1	1	0	0	0
		Summer 2015	0	0	0	0	2	27	0	0	3	0	0	0
	Year 3	Fall 2015	0	2	0	0	7	52	0	1	4	0	0	0
Bristol	Year 1	Spring 2014	0	0	0	0	0	11	1	1	0	0	0	0
		Summer 2014	0	2	0	0	7	55	3	5	4	0	0	0
	Year 2	Fall 2014	0	2	0	0	2	43	4	3	3	0	2	0
		Spring 2015	2	2	1	0	5	48	3	2	4	0	3	1
		Summer 2015	3	5	0	0	7	49	4	2	5	0	6	0
	Year 3	Fall 2015	2	4	0	0	4	30	2	2	4	0	3	1
Bunker Hill	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	1	21	0	0	17	18	0	0	3	0	1	0
	Year 2	Fall 2014	0	15	0	0	10	6	0	3	3	0	3	0
		Spring 2015	5	23	0	0	19	23	3	4	10	0	3	0
		Summer 2015	7	18	0	0	12	16	0	1	2	0	1	0
	Year 3	Fall 2015	10	26	0	0	33	24	0	4	10	0	1	0
Cape Cod	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	1	0	0	1	3	0	0	0	0	0	0
	Year 2	Fall 2014	0	22	2	0	31	213	4	15	4	0	9	0
		Spring 2015	0	20	1	0	32	230	3	18	6	0	10	0
		Summer 2015	1	11	0	0	13	60	1	6	3	0	6	2
	Year 3	Fall 2015	2	30	2	0	30	243	4	15	8	1	13	0
Greenfield	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	0	0	0	1	16	0	1	0	0	0	0
	Year 2	Fall 2014	0	0	0	0	0	4	0	0	0	0	0	0
		Spring 2015	0	0	0	0	1	7	0	1	0	0	0	0
		Summer 2015	0	0	0	0	0	9	0	0	1	0	1	8
	Year 3	Fall 2015	0	0	0	0	0	9	0	1	0	0	0	1
Holyoke	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	11	0	0	12	30	0	0	3	0	11	5
	Year 2	Fall 2014	1	15	0	0	43	79	0	4	2	0	5	0
		Spring 2015	1	4	0	0	8	7	0	1	0	0	1	0
		Summer 2015	1	5	0	0	17	17	0	2	1	0	5	18
	Year 3	Fall 2015	0	0	0	0	0	0	0	0	0	0	0	0

Table 7A: Primary SSA Participants Race/Ethnicity by Term and Insititution													
Institution	Grant Year	Term	Non-resident Alien	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Hispanic or Latino (of any Race)	White	Cape Verdean	Two or more races	Asian	Native Hawaiian or other Pacific Islander	Race and Ethnicity REPORTED Unknown	Race and Ethnicity Not found in HEIRS
Mass Bay	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	2	14	0	0	18	69	0	0	16	1	33	1
	Year 2	Fall 2014	4	66	5	0	54	174	1	1	18	0	50	1
		Spring 2015	11	84	4	0	78	218	1	3	30	0	61	0
		Summer 2015	0	5	0	0	3	23	0	0	8	0	5	40
	Year 3	Fall 2015	9	34	2	0	29	104	0	1	15	0	36	1
Massasoit	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	9	0	0	6	26	4	0	1	0	2	0
	Year 2	Fall 2014	3	168	1	0	56	274	76	31	8	1	25	0
		Spring 2015	3	187	3	0	59	315	88	34	6	1	19	0
		Summer 2015	0	6	0	0	2	15	2	2	1	0	1	0
	Year 3	Fall 2015	5	123	1	0	49	241	65	21	7	0	11	1
Middlesex	Year 1	Spring 2014	2	9	0	0	15	55	0	2	16	0	2	0
		Summer 2014	2	5	0	0	8	14	0	2	13	0	1	0
	Year 2	Fall 2014	4	23	1	0	30	72	0	1	40	0	1	0
		Spring 2015	5	21	0	0	39	57	0	1	35	0	15	0
		Summer 2015	1	11	0	0	48	45	0	0	29	0	1	2
	Year 3	Fall 2015	5	21	1	0	32	60	0	2	35	0	0	2
Mt. Wachusett	Year 1	Spring 2014	1	9	0	0	46	111	0	6	7	0	56	0
		Summer 2014	0	11	0	0	18	92	0	8	3	0	5	0
	Year 2	Fall 2014	0	5	0	0	38	107	0	4	7	0	174	2
		Spring 2015	0	10	0	0	56	142	0	9	10	0	187	2
		Summer 2015	0	1	0	0	0	14	0	1	2	0	0	0
	Year 3	Fall 2015	0	3	0	0	10	40	0	0	2	0	208	122
North Shore	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	6	1	0	16	26	0	3	2	0	1	0
	Year 2	Fall 2014	0	6	1	0	17	33	0	5	5	0	2	6
		Spring 2015	0	17	1	0	30	52	0	4	15	0	7	0
		Summer 2015	0	4	0	0	13	44	1	3	2	0	3	0
	Year 3	Fall 2015	0	6	0	0	4	11	0	0	2	0	0	0

							Table 7A: Primary SSA Participants Race/Ethnicity by Term and Insititution							
Institution	Grant Year	Term	Non-resident Alien	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Hispanic or Latino (of any Race)	White	Cape Verdean	Two or more races	Asian	Native Hawaiian or other Pacific Islander	Race and Ethnicity REPORTED Unknown	Race and Ethnicity Not found in HEIRS
Northern Essex	Year 1	Spring 2014	0	0	0	0	2	0	0	0	0	0	0	0
		Summer 2014	0	0	0	0	13	0	0	0	0	0	0	3
	Year 2	Fall 2014	0	11	1	0	135	81	0	2	1	1	1	0
		Spring 2015	1	8	0	0	63	37	0	2	2	1	3	0
		Summer 2015	1	9	0	0	60	31	0	0	3	1	2	1
	Year 3	Fall 2015	0	3	0	1	26	30	0	3	1	0	0	0
Quinsigamond	Year 1	Spring 2014	1	6	1	1	18	40	0	4	3	0	3	2
		Summer 2014	0	7	0	0	9	14	0	2	1	0	2	1
	Year 2	Fall 2014	1	48	1	1	32	145	0	4	19	0	14	0
		Spring 2015	2	53	2	1	47	124	0	5	15	0	20	42
		Summer 2015	0	0	0	0	0	0	0	0	0	0	0	0
	Year 3	Fall 2015	1	14	1	1	20	48	0	3	4	0	3	2
Roxbury	Year 1	Spring 2014	0	8	0	0	6	0	2	0	0	0	1	0
		Summer 2014	0	5	0	0	0	1	0	0	2	0	1	0
	Year 2	Fall 2014	0	2	0	0	4	0	0	0	0	0	1	0
		Spring 2015	0	2	0	0	4	0	0	0	0	0	1	0
		Summer 2015	-	-	-	-	-	-	-	-	-	-	-	-
	Year 3	Fall 2015	0	22	1	0	7	2	0	0	1	0	5	53
STCC	Year 1	Spring 2014	0	0	0	0	0	0	0	0	0	0	0	0
		Summer 2014	0	7	0	0	8	16	0	2	0	0	0	0
	Year 2	Fall 2014	0	10	0	0	9	22	0	2	1	0	0	0
		Spring 2015	0	13	0	0	9	29	0	2	1	0	0	0
		Summer 2015	0	17	0	0	13	41	0	3	4	0	0	0
	Year 3	Fall 2015	1	18	0	0	14	38	0	3	5	0	0	0

Participation and Outcomes

Year		Term	Found in HERIS	Enrolled part time (<12 credits)		Enrolled full time (≥12 credits)		Total
				#	%	#	%	
SSA Primary Participants*	Year 1 (Pilot)	Spring 2014	436	348	79.8%	88	20.2%	448
		Summer 2014	—	—	—	—	—	786
	Year 2	Fall 2014	2,304	947	41.1%	1,357	58.9%	2,769
		Spring 2015	2,866	1,627	56.8%	1,239	43.2%	2,949
		Summer 2015	—	—	—	—	—	882
	Year 3	Fall 2015	1,783	779	43.7%	1,004	56.3%	2,237
		SSA Total	7,389	3,701	50.1%	3,688	49.9%	10,071
Annual Credit Total for CC Segment	Year 1 (Pilot)	Spring 2014	94,513	60,717	64.2%	33,796	35.8%	94,513
	Year 2	Fall 2014	96,888	59,743	61.7%	37,145	38.3%	96,888
		Spring 2015	90,415	59,144	65.4%	31,271	34.6%	90,415
	Year 3	Fall 2015	92,619	57,693	62.3%	34,926	37.7%	92,619
		Total	374,435	237,297	63.4%	137,138	36.6%	374,435

Table 8: Student Part-Time or Full-Time Status, by SSA Participation and Term

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

SSA Primary Participant Enrollment Status, Total, Spring 2014-Fall 2015

Full Time, 49.9%
Part Time, 50.1%

Community College Student Enrollment Status, Total, Spring 2014-Fall 2015

Full Time, 36.6%
Part Time, 63.4%

Institution	Student Type	Grant Year	Term	Total	Found in HEIRS	Enrolled part time (<12 credits)		Enrolled time (>=12 credits)	
						#	%	#	%
Berkshire	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	21	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	67	67	49	73.1%	18	26.9%
			Spring 2015	28	28	13	46.4%	15	53.6%
			Summer 2015	32	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	66	65	24	36.9%	41	63.1%
	Annual Credit Students	Year 1	Spring 2014	2160	2160	1488	68.9%	672	31.1%
			Summer 2014	0	-	-	-	-	-
		Year 2	Fall 2014	2230	2230	1479	66.3%	751	33.7%
			Spring 2015	1933	1933	1290	66.7%	643	33.3%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	2111	2111	1390	65.8%	721	34.2%
Bristol	SSA primary participants	Year 1	Spring 2014	13	13	13	100.0%	0	0.0%
			Summer 2014	76	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	59	51	7	13.7%	44	86.3%
			Spring 2015	71	69	27	39.1%	42	60.9%
			Summer 2015	81	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	52	46	10	21.7%	36	78.3%
	Annual Credit Students	Year 1	Spring 2014	8768	8768	5334	60.8%	3434	39.2%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	9189	9189	4854	52.8%	4335	47.2%
			Spring 2015	8349	8349	5232	62.7%	3117	37.3%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	8761	8761	4508	51.5%	4253	48.5%
Bunker Hill	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	61	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	40	40	17	42.5%	23	57.5%
			Spring 2015	90	90	35	38.9%	55	61.1%
			Summer 2015	57	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	108	107	44	41.1%	63	58.9%
	Annual Credit Students	Year 1	Spring 2014	14245	14245	9874	69.3%	4371	30.7%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	14253	14253	9703	68.1%	4550	31.9%
			Spring 2015	14321	14321	10196	71.2%	4125	28.8%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	14047	14047	9856	70.2%	4191	29.8%
Cape Cod	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	5	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	300	300	147	49.0%	153	51.0%
			Spring 2015	320	320	167	52.2%	153	47.8%
			Summer 2015	103	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	348	348	176	50.6%	172	49.4%
	Annual Credit Students	Year 1	Spring 2014	3800	3800	2715	71.4%	1085	28.6%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	3818	3818	2713	71.1%	1105	28.9%
			Spring 2015	3480	3480	2550	73.3%	930	26.7%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	3627	3627	2513	69.3%	1114	30.7%
Greenfield	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	18	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	4	4	1	25.0%	3	75.0%
			Spring 2015	9	9	4	44.4%	5	55.6%
			Summer 2015	19	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	11	10	9	90.0%	1	10.0%
	Annual Credit Students	Year 1	Spring 2014	2093	2093	1428	68.2%	665	31.8%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	2127	2127	1369	64.4%	758	35.6%
			Spring 2015	1989	1989	1332	67.0%	657	33.0%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	2050	2050	1307	63.8%	743	36.2%
Holyoke	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	72	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	149	148	51	34.5%	97	65.5%
			Spring 2015	22	22	6	27.3%	16	72.7%
			Summer 2015	66	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	0	0	0	0.00%	0	0.00%
	Annual Credit Students	Year 1	Spring 2014	6358	6358	3630	57.1%	2728	42.9%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	6604	6604	3587	54.3%	3017	45.7%
			Spring 2015	6068	6068	3578	59.0%	2490	41.0%
			Spring 2014	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	6285	6285	3329	53.0%	2956	47.0%

						Enrolled part time (<12 credits)		Enrolled time (>=12 credits)	
Institution	Student Type	Grant Year	Term	Total	Found in HEIRS	#	%	#	%
Mass Bay	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	154	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	374	369	159	43.1%	210	56.9%
			Spring 2015	490	490	228	46.5%	262	53.5%
			Summer 2015	84	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	231	228	97	42.5%	131	57.5%
	Annual Credit Students	Year 1	Spring 2014	5244	5244	3559	67.9%	1685	32.1%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	5369	5369	3493	65.1%	1876	34.9%
			Spring 2015	4900	4900	3370	68.8%	1530	31.2%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	4816	4816	3168	65.8%	1648	34.2%
Massasoit	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	48	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	643	598	176	29.4%	422	70.6%
			Spring 2015	715	715	326	45.6%	389	54.4%
			Summer 2015	29	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	524	521	233	44.7%	288	55.3%
	Annual Credit Students	Year 1	Spring 2014	7917	7917	4760	60.1%	3157	39.9%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	7905	7905	4504	57.0%	3401	43.0%
			Spring 2015	7538	7538	4582	60.8%	2956	39.2%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	7637	7637	4416	57.8%	3221	42.2%
Middlesex	SSA primary participants	Year 1	Spring 2014	101	101	36	35.6%	65	64.4%
			Summer 2014	45	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	172	165	60	36.4%	105	63.6%
			Spring 2015	173	172	97	56.4%	75	43.6%
			Summer 2015	137	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	158	152	70	46.1%	82	53.9%
	Annual Credit Students	Year 1	Spring 2014	8674	8674	5572	64.2%	3102	35.8%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	9205	9205	5668	61.6%	3537	38.4%
			Spring 2015	8210	8210	5306	64.6%	2904	35.4%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	9021	9021	5644	62.6%	3377	37.4%
Mt. Wachusett	SSA primary participants	Year 1	Spring 2014	236	236	227	96.2%	9	3.8%
			Summer 2014	137	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	337	23	23	100.0%	0	0.0%
			Spring 2015	416	416	404	97.1%	12	2.9%
			Summer 2015	18	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	385	34	8	23.5%	26	76.5%
	Annual Credit Students	Year 1	Spring 2014	4274	4274	2678	62.7%	1596	37.3%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	4336	4336	2572	59.3%	1764	40.7%
			Spring 2015	4065	4065	2611	64.2%	1454	35.8%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	4074	4074	2475	60.8%	1599	39.2%
North Shore	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	55	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	75	0	0	0.00%	0	0.00%
			Spring 2015	126	118	110	93.2%	8	6.8%
			Summer 2015	70	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	23	23	6	26.1%	17	73.9%
	Annual Credit Students	Year 1	Spring 2014	7511	7511	4897	65.2%	2614	34.8%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	7412	7412	4837	65.3%	2575	34.7%
			Spring 2015	6988	6988	4659	66.7%	2329	33.3%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	6961	6961	4524	65.0%	2437	35.0%
Northern Essex	SSA primary participants	Year 1	Spring 2014	2	2	1	50.0%	1	50.0%
			Summer 2014	16	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	233	229	137	59.8%	92	40.2%
			Spring 2015	117	115	64	55.7%	51	44.3%
			Summer 2015	108	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	64	64	29	45.3%	35	54.7%
	Annual Credit Students	Year 1	Spring 2014	6490	6490	4410	68.0%	2080	32.0%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	6963	6963	4665	67.0%	2298	33.0%
			Spring 2015	6172	6172	4335	70.2%	1837	29.8%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	6628	6628	4409	66.5%	2219	33.5%

Table 8A: Student Part-Time or Full-Time Status, by SSA Participation, Tem, and Institution

Institution	Student Type	Grant Year	Term	Total	Found in HEIRS	Enrolled part time (<12 credits)		Enrolled time (>=12 credits)	
						#	%	#	%
Quinsigamond	SSA primary participants	Year 1	Spring 2014	79	75	62	82.7%	13	17.3%
			Summer 2014	36	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	265	264	109	41.3%	155	58.7%
			Spring 2015	311	247	123	49.8%	124	50.2%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	97	92	41	44.6%	51	55.4%
	Annual Credit Students	Year 1	Spring 2014	8155	8155	5158	63.2%	2997	36.8%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	8450	8450	5113	60.5%	3337	39.5%
			Spring 2015	7913	7913	5045	63.8%	2868	36.2%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	8063	8063	5023	62.3%	3040	37.7%
Roxbury	SSA primary participants	Year 1	Spring 2014	17	9	9	100.0%	0	0.0%
			Summer 2014	9	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	7	7	7	100.0%	0	0.0%
			Spring 2015	7	7	7	100.0%	0	0.0%
			Summer 2015	-	-	-	-	-	-
		Year 3	Fall 2015	91	32	19	59.4%	13	40.6%
	Annual Credit Students	Year 1	Spring 2014	2248	2248	1519	67.6%	729	32.4%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	2405	2405	1649	68.6%	756	31.4%
			Spring 2015	2338	2338	1617	69.2%	721	30.8%
			Summer 2015	-	-	-	-	-	-
		Year 3	Fall 2015	2252	2252	1560	69.3%	692	30.7%
STCC	SSA primary participants	Year 1	Spring 2014	0	0	0	0.00%	0	0.00%
			Summer 2014	33	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	44	39	4	10.3%	35	89.7%
			Spring 2015	54	48	16	33.3%	32	66.7%
			Summer 2015	78	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	79	61	13	21.3%	48	78.7%
	Annual Credit Students	Year 1	Spring 2014	6576	6576	3695	56.2%	2881	43.8%
			Summer 2014	0	0	0	0.00%	0	0.00%
		Year 2	Fall 2014	6622	6622	3537	53.4%	3085	46.6%
			Spring 2015	6151	6151	3441	55.9%	2710	44.1%
			Summer 2015	0	0	0	0.00%	0	0.00%
		Year 3	Fall 2015	6286	6286	3571	56.8%	2715	43.2%

Table 8A: Student Part-Time or Full-Time Status, by SSA Participation, Tem, and Institution

Participation and Outcomes

Table 9 : Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Starting Term								
Year		**Year 1 (Pilot)**		**Year 2 (Phase 1)**			**Year 3**	**SSA Total**
Term student began participation in SSA		**Spring 2014**	**Summer 2014**	**Fall 2014**	**Spring 2015**	**Summer 2015**	**Fall 2015**	
Number of primary participants	Total	448	762	2580	1937	644	1713	8084
	Trackable	349	654	2281	1705	563	1299	6851
Completed[†]	#	51	47	118	75	0	0	291
	%	14.6%	7.2%	5.2%	4.4%	0.0%	0.0%	4.2%
Retained	#	106	332	1180	1080	453	1282	4433
	%	30.4%	50.8%	51.7%	63.3%	80.5%	98.7%	64.7%
Transferred	#	35	41	145	72	25	2	320
	%	10.0%	6.3%	6.4%	4.2%	4.4%	0.2%	4.7%
Indeterminate status	#	157	234	838	478	85	15	1807
	%	45.0%	35.8%	36.7%	28.0%	15.1%	1.2%	26.4%

Institution	Term student began participation in SSA	Number of primary participants		Graduated or Completed		Retained to Fall 2015 at same institution		Transferred to MA Public		Indeterminate status	
		Total	Trackable	#	%	#	%	#	%	#	%
Berkshire	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	21	21	0	0.0%	13	61.9%	1	4.8%	7	33.3%
	Fall 2014	46	46	0	0.0%	7	15.2%	11	23.9%	28	60.9%
	Spring 2015	11	11	0	0.0%	1	9.1%	1	9.1%	9	81.8%
	Summer 2015	31	31	0	0.0%	30	96.8%	0	0.0%	1	3.2%
	Fall 2015	20	20	0	0.0%	20	100.0%	0	0.0%	0	0.0%
Bristol	Spring 2014	13	13	0	0.0%	5	38.5%	1	7.7%	7	53.8%
	Summer 2014	70	70	21	30.0%	32	45.7%	2	2.9%	15	21.4%
	Fall 2014	25	21	6	28.6%	10	47.6%	1	4.8%	4	19.0%
	Spring 2015	50	49	7	14.3%	26	53.1%	3	6.1%	13	26.5%
	Summer 2015	56	56	0	0.0%	45	80.4%	5	8.9%	6	10.7%
	Fall 2015	21	19	0	0.0%	15	78.9%	0	0.0%	4	21.1%
Bunker Hill	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	61	59	1	1.7%	31	52.5%	1	1.7%	26	44.1%
	Fall 2014	40	40	0	0.0%	22	55.0%	1	2.5%	17	42.5%
	Spring 2015	89	87	0	0.0%	71	81.6%	0	0.0%	16	18.4%
	Summer 2015	54	54	0	0.0%	53	98.1%	0	0.0%	1	1.9%
	Fall 2015	103	103	0	0.0%	102	99.0%	0	0.0%	1	1.0%
Cape Cod	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	5	5	0	0.0%	4	80.0%	1	20.0%	0	0.0%
	Fall 2014	297	297	32	10.8%	167	56.2%	19	6.4%	79	26.6%
	Spring 2015	202	197	12	6.1%	133	67.5%	12	6.1%	40	20.3%
	Summer 2015	64	61	0	0.0%	47	77.0%	3	4.9%	11	18.0%
	Fall 2015	231	231	0	0.0%	231	100.0%	0	0.0%	0	0.0%
Greenfield	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	18	16	0	0.0%	10	62.5%	2	12.5%	4	25.0%
	Fall 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Spring 2015	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2015	17	9	0	0.0%	8	88.9%	0	0.0%	1	11.1%
	Fall 2015	11	10	0	0.0%	10	100.0%	0	0.0%	0	0.0%
Holyoke	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	72	54	3	5.6%	23	42.6%	4	7.4%	24	44.4%
	Fall 2014	138	138	3	2.2%	74	53.6%	5	3.6%	56	40.6%
	Spring 2015	13	13	1	7.7%	5	38.5%	0	0.0%	7	53.8%
	Summer 2015	61	38	0	0.0%	34	89.5%	3	7.9%	1	2.6%
	Fall 2015	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Mass Bay	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	154	93	6	6.5%	46	49.5%	6	6.5%	35	37.6%
	Fall 2014	354	352	8	2.3%	177	50.3%	20	5.7%	147	41.8%
	Spring 2015	285	264	14	5.3%	163	61.7%	15	5.7%	72	27.3%
	Summer 2015	54	14	0	0.0%	11	78.6%	2	14.3%	1	7.1%
	Fall 2015	142	141	0	0.0%	139	98.6%	0	0.0%	2	1.4%
Massasoit	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	48	45	0	0.0%	23	51.1%	5	11.1%	17	37.8%
	Fall 2014	616	590	6	1.0%	306	51.9%	14	2.4%	264	44.7%
	Spring 2015	569	481	5	1.0%	332	69.0%	8	1.7%	136	28.3%
	Summer 2015	18	16	0	0.0%	13	81.3%	2	12.5%	1	6.3%
	Fall 2015	441	440	0	0.0%	440	100.0%	0	0.0%	0	0.0%
Middlesex	Spring 2014	101	101	41	40.6%	26	25.7%	9	8.9%	25	24.8%
	Summer 2014	45	41	2	4.9%	27	65.9%	4	9.8%	8	19.5%
	Fall 2014	151	150	20	13.3%	87	58.0%	12	8.0%	31	20.7%
	Spring 2015	132	112	18	16.1%	76	67.9%	4	3.6%	14	12.5%
	Summer 2015	110	108	0	0.0%	86	79.6%	6	5.6%	16	14.8%
	Fall 2015	110	108	0	0.0%	105	97.2%	0	0.0%	3	2.8%

Table 9A: Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Starting Term and Institution

	Term student began participation in SSA	Number of primary participants		Graduated or Completed		Retained to Fall 2015 at same institution		Transferred to MA Public		Indeterminate status	
Institution		Total	Trackable	#	%	#	%	#	%	#	%
Mt. Wachusett	Spring 2014	236	153	3	2.0%	45	29.4%	11	7.2%	94	61.4%
	Summer 2014	120	115	12	10.4%	56	48.7%	9	7.8%	38	33.0%
	Fall 2014	334	98	0	0.0%	57	58.2%	14	14.3%	27	27.6%
	Spring 2015	120	68	1	1.5%	41	60.3%	4	5.9%	22	32.4%
	Summer 2015	8	8	0	0.0%	8	100.0%	0	0.0%	0	0.0%
	Fall 2015	372	23	0	0.0%	22	95.7%	0	0.0%	1	4.3%
North Shore	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	55	55	0	0.0%	17	30.9%	2	3.6%	36	65.5%
	Fall 2014	74	44	0	0.0%	8	18.2%	9	20.5%	27	61.4%
	Spring 2015	96	96	4	4.2%	12	12.5%	12	12.5%	68	70.8%
	Summer 2015	64	64	0	0.0%	36	56.3%	1	1.6%	27	42.2%
	Fall 2015	20	20	0	0.0%	20	100.0%	0	0.0%	0	0.0%
Northern Essex	Spring 2014	2	2	2	100.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	16	13	0	0.0%	9	69.2%	1	7.7%	3	23.1%
	Fall 2014	233	233	2	0.9%	123	52.8%	9	3.9%	99	42.5%
	Spring 2015	102	102	5	4.9%	65	63.7%	3	2.9%	29	28.4%
	Summer 2015	83	80	0	0.0%	61	76.3%	3	3.8%	16	20.0%
	Fall 2015	63	63	0	0.0%	63	100.0%	0	0.0%	0	0.0%
Quinsigamond	Spring 2014	79	63	5	7.9%	28	44.4%	10	15.9%	20	31.7%
	Summer 2014	35	33	1	3.0%	17	51.5%	0	0.0%	15	45.5%
	Fall 2014	261	261	36	13.8%	139	53.3%	29	11.1%	57	21.8%
	Spring 2015	258	215	8	3.7%	148	68.8%	8	3.7%	51	23.7%
	Summer 2015	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Fall 2015	83	81	0	0.0%	78	96.3%	0	0.0%	3	3.7%
Roxbury	Spring 2014	17	17	0	0.0%	2	11.8%	4	23.5%	11	64.7%
	Summer 2014	9	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%
	Fall 2014	0	0	0	0	0	0	0	0	0	0.0%
	Spring 2015	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2015	-	-	-	-	-	-	-	-	-	-
	Fall 2015	91	35	0	0.0%	32	91.4%	2	5.7%	1	2.9%
STCC	Spring 2014	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Summer 2014	33	33	1	3.0%	23	69.7%	3	9.1%	6	18.2%
	Fall 2014	11	11	5	45.5%	3	27.3%	1	9.1%	2	18.2%
	Spring 2015	10	10	0	0.0%	7	70.0%	2	20.0%	1	10.0%
	Summer 2015	24	24	0	0.0%	21	87.5%	0	0.0%	3	12.5%
	Fall 2015	5	5	0	0.0%	5	100.0%	0	0.0%	0	0.0%

Table 9A: Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Starting Term and Institution

Participation and Outcomes

Table 10: Number of SSA Students Earning Degrees and Certificates by Year					
Year	Total SSA Students	Students earning degrees	Students earning certificates	Students earning STEM degrees	Students earning STEM certificates
Year 1 (Pilot)	1,234	83	32	57	31
Year 2	6,600	245	55	150	51
Year 3	2,237	7	3	6	3
Total	10,071	335	90	213	85

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

Table 10A: Annual Number of SSA Students Earning Degrees and Certificates, by Year and Campus						
Community College	Grant Year	Total Students	Number of students who earned degrees	Number of students who earned certificates	Number of students who earned STEM degrees	Number of students who earned STEM certificates
Berkshire	Year 1	21	0	0	0	0
	Year 2	127	0	0	0	0
	Year 3	66	0	0	0	0
Bristol	Year 1	89	20	1	18	1
	Year 2	211	35	4	33	4
	Year 3	52	2	1	2	1
Bunker Hill	Year 1	61	1	0	0	0
	Year 2	187	0	0	0	0
	Year 3	108	0	0	0	0
Cape Cod	Year 1	5	0	0	0	0
	Year 2	723	56	3	14	2
	Year 3	348	0	0	0	0
Greenfield	Year 1	18	0	0	0	0
	Year 2	32	0	0	0	0
	Year 3	11	0	0	0	0
Holyoke	Year 1	72	3	0	0	0
	Year 2	237	7	3	0	2
	Year 3	0	0	0	0	0
Mass Bay	Year 1	154	6	0	0	0
	Year 2	948	23	9	17	9
	Year 3	231	0	0	0	0
Massasoit	Year 1	48	0	0	0	0
	Year 2	1387	10	3	2	1
	Year 3	524	0	0	0	0
Middlesex	Year 1	146	37	18	28	18
	Year 2	482	43	15	33	15
	Year 3	158	0	0	0	0
Mt. Wachusett	Year 1	373	10	10	7	9
	Year 2	771	0	1	0	1
	Year 3	385	0	0	0	0
North Shore	Year 1	55	0	0	0	0
	Year 2	271	3	1	2	1
	Year 3	23	0	0	0	0
Northern Essex	Year 1	18	1	1	1	1
	Year 2	458	9	5	6	5
	Year 3	64	0	0	0	0
Quinsigamond	Year 1	115	5	1	3	1
	Year 2	576	44	8	28	8
	Year 3	97	2	1	1	1
Roxbury	Year 1	26	0	0	0	0
	Year 2	14	0	0	0	0
	Year 3	91	0	0	0	0
STCC	Year 1	33	0	1	0	1
	Year 2	176	15	3	15	3
	Year 3	79	3	1	3	1

Participation and Outcomes

Table 11: Fall 2014 to Fall 2015 Retention of SSA Students and all Community College Students					
	Number of full-time, first-time degree seeking students (Fall 2014)	**Retained to Fall 2015 at institution**		**Transferred to another institution (MA public only)**	
		#	**%**	**#**	**%**
SSA Students	646	388	60.1%	23	3.6%
All Students	11,352	6,566	57.8%	524	4.6%

Table 11a: Fall 2014 to Fall 2015 Retention of SSA Students and all Community College Students, by						
Institution	Student type	Number of full-time, first-time degree seeking students (Fall 2014)	Retained to Fall 2015 at institution		Transferred to another institution (Mass public only)	
			#	%	#	%
Berkshire	SSA Students	18	12	66.7%	1	5.6%
	All Students	260	145	55.8%	12	4.6%
Bristol	SSA Students	23	19	82.6%	0	0.0%
	All Students	1385	842	60.8%	42	3.0%
Bunker Hill	SSA Students	11	6	54.5%	0	0.0%
	All Students	1211	736	60.8%	34	2.8%
Cape Cod	SSA Students	47	32	68.1%	1	2.1%
	All Students	376	207	55.1%	13	3.5%
Greenfield	SSA Students	2	2	100.0%	0	0.0%
	All Students	197	115	58.4%	10	5.1%
Holyoke	SSA Students	43	30	69.8%	0	0.0%
	All Students	983	568	57.8%	55	5.6%
Mass Bay	SSA Students	91	53	58.2%	5	5.5%
	All Students	648	339	52.3%	35	5.4%
Massasoit	SSA Students	299	165	55.2%	6	2.0%
	All Students	1186	678	57.2%	53	4.5%
Middlesex	SSA Students	24	17	70.8%	4	16.7%
	All Students	1109	678	61.1%	85	7.7%
Mt. Wachusett	SSA Students	0	0	0.00%	0	0.00%
	All Students	503	269	53.5%	35	7.0%
North Shore	SSA Students	0	0	0.00%	0	0.00%
	All Students	737	424	57.5%	37	5.0%
Northern Essex	SSA Students	65	38	58.5%	2	3.1%
	All Students	758	441	58.2%	36	4.7%
Quinsigamond	SSA Students	22	14	63.6%	4	18.2%
	All Students	903	496	54.9%	42	4.7%
Roxbury	SSA Students	0	0	0.00%	0	0.00%
	All Students	178	83	46.6%	7	3.9%
STCC	SSA Students	1	0	0.0%	0	0.0%
	All Students	918	545	59.4%	28	3.1%

Participation and Outcomes

	Number of primary participants*	Earned a certificate or degree prior to July 1, 2015		Retained to Fall 2015 at same institution		Enrolled at Other MA public in Fall 2015		Completed >30 credits prior to Fall 2015		Indeterminate Status	
		#	%	#	%	#	%	#	%	#	%
Degree-seeking undergraduate, first-time freshman	784	0	0.0%	435	55.5%	26	3.3%	3	0.4%	320	40.8%
Degree-seeking undergraduate, transfer student	111	0	0.0%	59	53.2%	5	4.5%	4	3.6%	43	38.7%
Degree-seeking undergraduate, readmitted/reactivated student	67	3	4.5%	29	43.3%	2	3.0%	0	0.0%	33	49.3%
Non-degree-seeking undergraduate student	33	0	0.0%	15	45.5%	3	9.1%	0	0.0%	15	45.5%
Total	995	3	0.3%	538	54.1%	36	3.6%	7	0.7%	411	41.3%

Table 12: Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Starting Term

* Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

Institution	Fall 2014 status	Number of primary participants	Earned a certificate or degree prior to July 1, 2015		Retained to Fall 2015 at same institution		Enrolled at Other MA public in Fall 2015		Completed >30 credits prior to Fall 2015		Indeterminate Status	
			#	%	#	%	#	%	#	%	#	%
Berkshire	Degree Seeking Undergraduate First-time Freshman	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bristol	Degree Seeking Undergraduate First-time Freshman	4	0	0.0%	1	25.0%	0	0.0%	0	0.0%	3	75.0%
	Degree Seeking Undergraduate Transfer Student	2	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	1	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bunker Hill	Degree Seeking Undergraduate First-time Freshman	13	0	0.0%	7	53.8%	0	0.0%	0	0.0%	6	46.2%
	Degree Seeking Undergraduate Transfer Student	9	0	0.0%	5	55.6%	0	0.0%	0	0.0%	4	44.4%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%
Cape Cod	Degree Seeking Undergraduate First-time Freshman	57	0	0.0%	34	59.6%	2	3.5%	2	3.5%	19	33.3%
	Degree Seeking Undergraduate Transfer Student	20	0	0.0%	10	50.0%	2	10.0%	0	0.0%	8	40.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	18	3	16.7%	11	61.1%	0	0.0%	0	0.0%	4	22.2%
	Non-Degree Seeking Undergraduate Student	7	0	0.0%	2	28.6%	0	0.0%	0	0.0%	5	71.4%
Greenfield	Degree Seeking Undergraduate First-time Freshman	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Holyoke	Degree Seeking Undergraduate First-time Freshman	57	0	0.0%	35	61.4%	1	1.8%	0	0.0%	21	36.8%
	Degree Seeking Undergraduate Transfer Student	14	0	0.0%	9	64.3%	1	7.1%	0	0.0%	4	28.6%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	5	0	0.0%	0	0.0%	1	20.0%	0	0.0%	4	80.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
MassBay	Degree Seeking Undergraduate First-time Freshman	128	0	0.0%	76	59.4%	6	4.7%	0	0.0%	46	35.9%
	Degree Seeking Undergraduate Transfer Student	11	0	0.0%	5	45.5%	0	0.0%	2	18.2%	4	36.4%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	7	0	0.0%	3	42.9%	0	0.0%	0	0.0%	4	57.1%
Massasoit	Degree Seeking Undergraduate First-time Freshman	353	0	0.0%	184	52.1%	6	1.7%	0	0.0%	163	46.2%
	Degree Seeking Undergraduate Transfer Student	25	0	0.0%	14	56.0%	0	0.0%	0	0.0%	11	44.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	9	0	0.0%	3	33.3%	0	0.0%	0	0.0%	6	66.7%
	Non-Degree Seeking Undergraduate Student	6	0	0.0%	6	100.0%	0	0.0%	0	0.0%	0	0.0%
Middlesex	Degree Seeking Undergraduate First-time Freshman	22	0	0.0%	16	72.7%	3	13.6%	1	4.5%	2	9.1%
	Degree Seeking Undergraduate Transfer Student	11	0	0.0%	7	63.6%	0	0.0%	0	0.0%	4	36.4%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	3	0	0.0%	1	33.3%	0	0.0%	0	0.0%	2	66.7%
Mt. Wachusett	Degree Seeking Undergraduate First-time Freshman	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
North Shore	Degree Seeking Undergraduate First-time Freshman	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Table 12A: Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Fall 2014 Student Entry Status and Institution

	Table 12A: Fall 2015 Progress and Completion Rates for SSA Primary Participants, by Fall 2014 Student Entry Status and Institution											
Institution	Fall 2014 status	Number of primary participants	Earned a certificate or degree prior to July 1, 2015		Retained to Fall 2015 at same institution		Enrolled at Other MA public in Fall 2015		Completed >30 credits prior to Fall 2015		Indeterminate Status	
			#	%	#	%	#	%	#	%	#	%
Northern Essex	Degree Seeking Undergraduate First-time Freshman	117	0	0.0%	61	52.1%	3	2.6%	0	0.0%	53	45.3%
	Degree Seeking Undergraduate Transfer Student	13	0	0.0%	4	30.8%	2	15.4%	0	0.0%	7	53.8%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	25	0	0.0%	9	36.0%	0	0.0%	0	0.0%	16	64.0%
	Non-Degree Seeking Undergraduate Student	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%
Quinsigamond	Degree Seeking Undergraduate First-time Freshman	32	0	0.0%	21	65.6%	5	15.6%	0	0.0%	6	18.8%
	Degree Seeking Undergraduate Transfer Student	6	0	0.0%	3	50.0%	0	0.0%	2	33.3%	1	16.7%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	9	0	0.0%	5	55.6%	1	11.1%	0	0.0%	3	33.3%
	Non-Degree Seeking Undergraduate Student	8	0	0.0%	3	37.5%	3	37.5%	0	0.0%	2	25.0%
Roxbury	Degree Seeking Undergraduate First-time Freshman	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
STCC	Degree Seeking Undergraduate First-time Freshman	1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%
	Degree Seeking Undergraduate Transfer Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Degree Seeking Undergraduate Readmitted/Reactivated Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Non-Degree Seeking Undergraduate Student	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Participation and Outcomes

Table 13: SSA Primary Participants' Mathematics Participation and Outcomes, 2015				
Term	Total number of primary participants*	Number of primary participants who participated in a SSA-sponsored developmental math intervention	Number of primary participants who participated in a developmental math intervention and **fulfilled all developmental math requirements** for their institution by the end of the term	Number of primary participants who completed developmental math and subsequently enrolled in a college-credit-level math course
Summer 2015	882	197	80	60
Fall 2015	2,237	1,063	238	—
Total	3,119	1,260	318	60
*Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).				

Table 13A: Primary SSA Participants' Math Participation and Outcomes by Institution, 2015					
Institution	Term	Total number of primary participants	Number of primary participants who participated in a SSA-sponsored developmental math intervention	Number of primary participants who participated in a developmental math intervention and **fulfilled all developmental math requirements** for their institution by the end of the term	Number of primary participants who completed developmental math and subsequently enrolled in a college-credit level math course
Berkshire	Summer 2015	32	21	6	6
	Fall 2015	66	0	0	0
Bristol	Summer 2015	81	25	6	3
	Fall 2015	52	14	4	0
Bunker Hill	Summer 2015	57	41	38	30
	Fall 2015	108	44	36	0
Cape Cod	Summer 2015	103	20	5	3
	Fall 2015	348	119	80	0
Greenfield	Summer 2015	19	6	3	0
	Fall 2015	11	0	0	0
Holyoke	Summer 2015	0	0	0	0
	Fall 2015	66	25	0	0
Mass Bay	Summer 2015	84	2	2	2
	Fall 2015	231	41	3	0
Massasoit	Summer 2015	29	12	1	1
	Fall 2015	524	436	102	0
Middlesex	Summer 2015	137	20	1	1
	Fall 2015	158	0	0	0
Mt. Wachusett	Summer 2015	18	3	3	3
	Fall 2015	385	355	0	0
North Shore	Summer 2015	70	0	0	0
	Fall 2015	23	0	0	0
Northern Essex	Summer 2015	108	8	8	5
	Fall 2015	64	0	0	0
Quinsigamond	Summer 2015	0	0	0	0
	Fall 2015	97	15	6	
Roxbury	Summer 2015	-	-	-	-
	Fall 2015	91	39	7	0
STCC	Summer 2015	78	14	7	6
	Fall 2015	79	0	0	0

Participation and Outcomes

Table 14: Students' Developmental Mathematics Progress, Fall 2014					
	Number of freshmen, first-time enrollees	**Students *enrolled* in remedial math during current term**		**Students *completing* a remedial math course during the current term**	
		#	**%**	**#**	**%**
SSA Primary Participants*	784	688	87.8%	451	65.6%
Full College	18,911	8,644	45.7%	5,801	67.1%
*Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).					

			Number of freshmen, first-time enrollees	Students *enrolled* in remedial math during current term		Students *completing* a remedial math course during the current term	
Table 14A: Students' Developmental Math Progress, by Institution							
Institution		Term	SSA	SSA		SSA	
				#	%	#	%
Berkshire	SSA Students	Fall 2014	0	0	0%	0	0%
	Full College	Fall 2014	427	161	37.7%	111	68.9%
Bristol	SSA Students	Fall 2014	4	4	100.0%	2	50.0%
	Full College	Fall 2014	1972	1004	50.9%	628	62.5%
Bunker Hill	SSA Students	Fall 2014	13	13	100.0%	12	92.3%
	Full College	Fall 2014	2395	946	39.5%	664	70.2%
Cape Cod	SSA Students	Fall 2014	57	33	57.9%	22	66.7%
	Full College	Fall 2014	708	230	32.5%	124	53.9%
Greenfield	SSA Students	Fall 2014	0	0	0%	0	0%
	Full College	Fall 2014	370	171	46.2%	108	63.2%
Holyoke	SSA Students	Fall 2014	57	57	100.0%	42	73.7%
	Full College	Fall 2014	1495	828	55.4%	542	65.5%
Mass Bay	SSA Students	Fall 2014	128	110	85.9%	72	65.5%
	Full College	Fall 2014	1205	372	30.9%	248	66.7%
Massasoit	SSA Students	Fall 2014	353	349	98.9%	217	62.2%
	Full College	Fall 2014	1733	1126	65.0%	766	68.0%
Middlesex	SSA Students	Fall 2014	22	1	4.5%	1	100.0%
	Full College	Fall 2014	1845	807	43.7%	561	69.5%
Mt. Wachusett	SSA Students	Fall 2014	0	0	0%	0	0%
	Full College	Fall 2014	800	358	44.8%	258	72.1%
North Shore	SSA Students	Fall 2014	0	0	0%	0	0%
	Full College	Fall 2014	1286	376	29.2%	187	49.7%
Northern Essex	SSA Students	Fall 2014	117	117	100.0%	79	67.5%
	Full College	Fall 2014	1354	606	44.8%	409	67.5%
Quinsigamond	SSA Students	Fall 2014	32	3	9.4%	3	100.0%
	Full College	Fall 2014	1579	692	43.8%	491	71.0%
Roxbury	SSA Students	Fall 2014	0	0	0%	0	0%
	Full College	Fall 2014	440	172	39.1%	116	67.4%
STCC	SSA Students	Fall 2014	1	1	100.0%	1	100.0%
	Full College	Fall 2014	1302	795	61.1%	588	74.0%

Table 15: Primary Participants Previously Reported as Secondary Participants				
Year	Term	Number of secondary participants*	Number of primary participants[†]	Number of current term primary participants previously reported as secondary participants
Year 1 (Pilot)	Spring 2014	5,662	448	0
	Summer 2014	2,545	786	131
Year 2	Fall 2014	1,741	2,769	17
	Spring 2015	5,018	2,949	261
	Summer 2015	1,742	882	164
Year 3	Fall 2015	4,192	2,237	126
Total		20,900	10,071	699

Note. For the purposes of this report, we are considering Year 1 to be spring and summer 2014 and Year 2 to be fall 2014, spring 2015, and summer 2015.

* Secondary participants are individuals who are not currently enrolled at a community college and participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who do not have an ID number assigned by their college).

[†] Primary participants are community college students who participate in STEM Starter Academy grant funded programs/events/activities (i.e., participants who have an ID number assigned by their college).

Table 15A: Primary Participants Previously Reported as Secondary Participants, by Institution					
Institution	Grant Year	Term	Number of primary participants	Number of secondary participants	Number of current term primary participants previously reported as secondary participants
Berkshire	Year 1	Spring 2014	0	84	-
		Summer 2014	21	144	16
	Year 2	Fall 2014	67	343	16
		Spring 2015	28	178	2
		Summer 2015	32	0	25
	Year 3	Fall 2015	66	702	0
Bristol	Year 1	Spring 2014	13	392	-
		Summer 2014	76	219	0
	Year 2	Fall 2014	59	348	0
		Spring 2015	71	422	10
		Summer 2015	81	279	2
	Year 3	Fall 2015	52	245	6
Bunker Hill	Year 1	Spring 2014	0	0	-
		Summer 2014	61	0	0
	Year 2	Fall 2014	40	0	0
		Spring 2015	90	0	0
		Summer 2015	57	0	0
	Year 3	Fall 2015	108	0	0
Cape Cod	Year 1	Spring 2014	0	299	-
		Summer 2014	5	405	5
	Year 2	Fall 2014	300	151	0
		Spring 2015	320	875	122
		Summer 2015	103	1212	18
	Year 3	Fall 2015	348	1541	56
Greenfield	Year 1	Spring 2014	0	115	-
		Summer 2014	18	235	8
	Year 2	Fall 2014	4	305	0
		Spring 2015	9	214	0
		Summer 2015	19	0	1
	Year 3	Fall 2015	11	0	0
Holyoke	Year 1	Spring 2014	0	770	-
		Summer 2014	72	15	47
	Year 2	Fall 2014	149	18	0
		Spring 2015	22	1262	0
		Summer 2015	66	0	0
	Year 3	Fall 2015	0	0	-
Mass Bay	Year 1	Spring 2014	0	477	-
		Summer 2014	154	0	0
	Year 2	Fall 2014	374	4	0
		Spring 2015	490	417	1
		Summer 2015	84	133	79
	Year 3	Fall 2015	231	350	6
Massasoit	Year 1	Spring 2014	0	850	-
		Summer 2014	48	110	0
	Year 2	Fall 2014	643	0	0
		Spring 2015	715	40	0
		Summer 2015	29	0	0
	Year 3	Fall 2015	524	0	0

Table 15A: Primary Participants Previously Reported as Secondary Participants, by Institution					
Institution	Grant Year	Term	Number of primary participants	Number of secondary participants	Number of current term primary participants previously reported as secondary participants
Middlesex	Year 1	Spring 2014	101	152	-
		Summer 2014	45	0	0
	Year 2	Fall 2014	172	0	0
		Spring 2015	173	204	0
		Summer 2015	137	31	0
	Year 3	Fall 2015	158	493	0
Mt. Wachusett	Year 1	Spring 2014	236	449	-
		Summer 2014	137	0	0
	Year 2	Fall 2014	337	0	0
		Spring 2015	416	288	0
		Summer 2015	18	0	0
	Year 3	Fall 2015	385	11	0
North Shore	Year 1	Spring 2014	0	250	-
		Summer 2014	55	1220	55
	Year 2	Fall 2014	75	400	1
		Spring 2015	126	250	126
		Summer 2015	70	30	33
	Year 3	Fall 2015	23	30	23
Northern Essex	Year 1	Spring 2014	2	209	-
		Summer 2014	16	0	0
	Year 2	Fall 2014	233	138	0
		Spring 2015	117	13	0
		Summer 2015	108	11	0
	Year 3	Fall 2015	64	1	0
Quinsigamond	Year 1	Spring 2014	79	845	-
		Summer 2014	36	197	0
	Year 2	Fall 2014	265	34	0
		Spring 2015	311	114	0
		Summer 2015	0	29	0
	Year 3	Fall 2015	97	389	29
Roxbury	Year 1	Spring 2014	17	240	-
		Summer 2014	9	0	0
	Year 2	Fall 2014	7	0	0
		Spring 2015	7	0	0
		Summer 2015	-	-	-
	Year 3	Fall 2015	91	0	0
STCC	Year 1	Spring 2014	0	530	-
		Summer 2014	33	0	0
	Year 2	Fall 2014	44	0	0
		Spring 2015	54	741	0
		Summer 2015	78	17	6
	Year 3	Fall 2015	79	430	6

STEM Starter Academy, DHE Interview, September, 2015

Introduction

- Thank you for taking the time to speak with us today.

- The purpose of this interview is to deepen our understanding of what's happening with the STEM Starter Academy Initiative. In particular, we're interested in DHE's perspective on issues such as successes and challenges during Year 2. We would also like to hear about lessons learned by DHE that you think would be most important to share with others who are trying to do similar work.

- Findings from this interview will be included in our Year 2 Annual Evaluation report, briefly summarized in the Year 2 Evaluation Report Supplement, and possibly included in other products from the evaluation. Since you are our only DHE interviewee(s), we will be unable to report information from this interview in a confidential manner. However, in the event that you would prefer for a particular response to remain confidential, please let us know, and we will honor your preference for confidentiality.

- Ask permission to use tape recorder.

Overall reflections on program implementation

1. At the end of the second full year of program implementation, what do you see as the major successes of the SSA initiative for DHE and for the sites?

2. At the end of the second full year of program implementation, what have you seen as the major challenges of the SSA initiative for DHE and for the sites?

   o How have these challenges been overcome and midcourse corrections undertaken?

     ▪ Possible follow-up (ask if 9c cuts are not addressed): We know that DHE and the sites were impacted by 9c cuts during Year 2. How was this challenge addressed, and to what extent to you think DHE and the sites overcame this challenge?

3. What key decision points did DHE face during Year 2 in terms of providing program support and facilitation?

   o Possible follow up (if not already addressed): how were these decisions resolved? What do these decisions reflect about DHE's priorities for the SSA initiative?

   o In addition to what we just discussed, what changes, if any, did DHE make from its original plans for the SSA initiative during Year 2, and why? Did the changes have their intended effect? Have there been any surprises?

4. What successes and challenges has DHE faced in terms of facilitating sites' efforts to implement and share best practices for community college student success in STEM fields?

   o Possible follow-up (ask if working groups and/or technical assistance gatherings are not mentioned): In what ways and to what extent have the working groups and technical assistance gatherings facilitated sites sharing of best practices?

Reflections on Sites

5. What promising practices do you see emerging from the SSA initiative? Can you provide a few details of how they came about, and their relation to existing SSA sites? What suggests to you that these are promising practices?

6. What differences have you noted in program features, implementation, and contextual variables that you think might impact progress or outcomes differently at the various campuses?

Looking forward

7. What have you learned that will inform DHE's plans for supporting the implementation of the SSA initiative moving forward?
    o   Based on what you've learned, what are your plans for supporting the implementation of the SSA initiative moving forward?

8. As the SSA initiative completes its second year, what do you see as the prospects for sustainability of the various pieces of this initiative beyond the funding period? (e.g., DHE oversight and coordination of SSA efforts, programs and activities at various sites, evaluation activities, cross-site collaboration and sharing of best practices)

    o   What are DHE's priorities for sustaining SSA supported programs and activities?

    o   In your view, what are some positive steps that DHE and the sites have already taken with regard to improving prospects for sustainability?

    o   In what ways has DHE integrated the SSA initiative with other STEM pipeline development and support efforts?

Concluding items (if time allows)

9. Do you have any feedback on the evaluation during Year 2?

    a.   Can you tell us what has been useful about this year's evaluation?

    b.   What would you most like to learn from next year's evaluation?

10. Have there been any important recent developments at any of the SSA sites that the evaluation team should know about?

11. Is there anything we haven't discussed that you think would be important for us to know as the evaluators of the SSA initiative?

STEM Starter Academy, DHE Interview, January 2016
Perspectives on Year 3 and Reflections on Year 2

Introduction

- Thank you for taking the time to speak with us today.

- The purpose of this interview is to deepen our understanding of what's happening with the STEM Starter Academy Initiative. In particular, we're interested in DHE's perspectives on Year 3 implementation so far including any developments in your vision moving forward, and any final reflections on Year 2. We would also like to hear about lessons learned by DHE that you think would be most important to share with others who are trying to do similar work.

- Findings from this interview will be included in our Year 2 Annual Evaluation report and possibly included in other products from the evaluation. Since you are our only DHE interviewee(s), we will be unable to report information from this interview in a confidential manner. However, in the event that you would prefer for a particular response to remain confidential, please let us know, and we will honor your preference for confidentiality.

- Ask permission to use recorder.

Overall reflections on program implementation in Year 3

1. We last interviewed you about four months ago (in September) at the end of the second full year of SSA program implementation. At that time, you highlighted successes in year 2 including:

   - The development of the SSA program model
   - Improved understanding of how to connect measurement outcomes with program design
   - The flexibility and commitment of SSA sites, including their participation in working groups
   - The formalization of Allison's role in the project

   So far in Year 3 have there been any notable successes of the SSA initiative for DHE and for the sites?

2. During our interview, you also identified some challenges and areas for continued attention in Year 3 including:

   - A desire to better understand and make decisions about integrating SSA into other campus systems and initiatives (including STEM pipeline initiatives)
   - Improving information sharing and collaboration across sites
   - To find a way to make the preparation of the annual legislative report about SSA less complex and challenging

   So far in Year 3, have you been able to address any of these challenges? What other major challenges of the SSA initiative have you seen for DHE and for the sites in Year 3?

   - How have these challenges been overcome and midcourse corrections undertaken?

3. We are a few months into the third year of SSA program implementation. Are there any major differences in strategy or implementation this year (for DHE or for the sites)?

4. Over the past few months, has DHE faced any key decisions points in terms of providing program support and facilitation for SSA?

   - Possible follow up (if not already addressed): how were these decisions resolved? What do these decisions reflect about DHE's priorities for the SSA initiative?

Reflections on Sites

5. Have you identified sites which might serve as leaders or role models for practices you consider to be promising? Can you provide a few examples? What suggests to you that these are promising practices?

6. During our last interview you reflected on requiring clearer and more measureable Year 3 plans from sites. How did the plans you received from sites align with your expectations?

7. How have been negotiating the level of adherence to the reverse engineering model with sites that have a variety of different implementations? Are there aspects that you are more or less willing to negotiate?

Looking forward

8. Moving forward, do you plan to adjust the way DHE is supporting the implementation of the SSA initiative? In what ways?

9. Now that the sustainability working group has been meeting, have your perspectives changed on the prospects for sustainability of the various pieces of this initiative beyond the funding period?

   - Have you seen SSA sites shifting their programs in the direction of greater sustainability?

   - Have DHE's priorities for sustaining SSA supported programs and activities changed?

   - In your view, what are some positive steps that DHE and the sites are taking with regard to improving prospects for sustainability?

Concluding items (if time allows)

10. Do you have any feedback on the evaluation that you would like to share?

11. Have there been any important recent developments at any of the SSA sites that the evaluation team should know about?

12. Is there anything we haven't discussed that you think would be important for us to know as the evaluators of the SSA initiative?

STEM Starter Academy
Year Two Evaluation Planning
12/22/2014

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Note: This document presents changes to the original scope of work (that resulted from 9c cuts). Changes to the scope of work have been discussed by DHE and UMDI.

Introduction
Following is a preliminary scope of evaluation and technical assistance to be provided by the University of Massachusetts Donahue Institute (UMDI) during year two of DHE's STEM Starter Academy (SSA) program. The program's components and implementation plan for year two, and therefore plans for evaluation, are emergent. Substantial changes to the plan presented in this document may be necessary to accommodate adjustments to program and/or evaluation priorities and resources, subject to agreement between UMDI and DHE. The services described in this year two evaluation planning proposal are complementary to, and not in place of, ongoing year one activities, which are described below.

This work plan focuses on externally visible activities such as instrument development, data collection, and deliverables, but not on internal activities such as methodological planning, database development, data analysis, and project management. Evaluation questions and criteria, data collection methods and schedules, and reporting structures require further development and specification, and will be adjusted as our understanding of the STEM Starter Academy program evolves.

Purpose
The STEM Starter Academy evaluation has multiple purposes:

1. **Provide formative feedback.** UMDI will collect feedback from STEM Starter Academy program sites through surveys, interviews, site visits, focus groups, and concise structured reports.

2. **Provide preliminary summative feedback.** UMDI will collect and analyze baseline student performance data (e.g., number of students served, retention rates, dropout rates, graduation rates, credit accumulation, and course performance) to the extent feasible given time and resource limitations. Future evaluation activities (if funded) will shift from monitoring student participation and activity to other outcomes of interest (e.g., certificate or degree completion, transfer to a 4-year institution) that cannot reasonably be obtained within this study period.

3. **Provide technical assistance**. Technical assistance activities may include participation in key meetings, solicitation of expert reviews/commentary, refinement of documents describing best practices for advancing STEM education at community colleges, response to site specific

1

inquiries or requests for support, and brief interviews with community college representatives.

Goals for Year Two Evaluation

As the STEM Starter Academy program progresses through its second year of operation, the goals of the evaluation will be to:

- Document variations in both the progress and nature of implementation across sites, and reasons for those variations.

- Support project improvement through timely formative analysis and feedback.

- Identify and measure interim and final project outcomes.

Although direct attribution to SSA will be difficult to validate, the evaluation will seek to improve the stakeholders' understandings of the connection between program activities and changes in student outcomes.

Summary of Year One Evaluation Activities

To contextualize our year two evaluation plan, a brief summary of year one evaluation activities is provided below. This list includes some activities that are in process or that will be completed during fall 2014, and are funded through the year one SSA evaluation budget.

Year one data collection activities:
1. Spring 2014 – supplemental participant data collection
2. Spring 2014 – phone interviews with each campus
3. Summer 2014 – technical assistance meeting evaluation forms
4. Summer 2014 – supplemental participant data collection
5. Summer2014 – survey
6. Summer 2014 – selective site visits (5 sites)
7. Fall 2014 – year one reporting by sites

Other year one evaluation activities:
1. Technical assistance
    a. Meeting notes
    b. Intermittent reports and updates (e.g., summary of spring interview data)
2. Literature review – promising practices document
3. Annual report

Proposed Year Two Evaluation Activities

The budget and scope for year two of the SSA evaluation have not been established. This document includes proposed evaluation activities for year two. DHE and UMDI would like each campus to have a voice in the evaluation planning process (e.g., Are there data we can collect that could be particularly helpful or interesting to the sites?), and we welcome their feedback. An evaluation scope and budget will developed later this summer, as evaluation priorities are better understood and research activities are more fully specified.

Most sites are beginning to plan year two activities and programs now, and it is difficult to gauge the appropriateness of all proposed evaluation activities without having these plans in hand. To date, discussion surrounding SSA during year one has focused on recruitment and summer bridge programs. It seems likely that the focus during year two will shift to outcomes (retention, transfer, graduation, etc.). However, data on key outcomes for many participants will be delayed due to data availability timelines.

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Below we present a proposed timeline for technical assistance and evaluation activities to be completed during year two. A brief description of each activity follows the table.

Timeline of Proposed Technical Assistance and Evaluation Activities August 2014 – September 2015													
Evaluation Activity	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
Targeted technical assistance	X[1]	X[1]	X[1]	X[1]	X[1]	X	X	X	X	X	X	X	X	
Supplemental participant data collection	X[1]				X					X			X	
Grantee survey	X[1]												X	
~~Participant exit survey~~														
DHE interviews		X										X		
Grantee gathering feedback							X							
Phone interviews			X	X										
Site visits (Interviews, observation, focus group)			X	X								X	X	
Site reports					X[1]								X	
Illustrative case studies							X							
Interim evaluation report								X		~~X~~				
Annual evaluation report						X[1]								X

[1]Evaluation activity is included in the existing year one scope.

Targeted technical assistance[1] – UMDI will provide DHE with targeted technical assistance. For example, evaluators will attend DHE planning and review meetings. UMDI will respond to requests for information or support as feasible and appropriate. Technical assistance will average no more than 20 hours per month from January, 2015 through August, 2015.

Supplemental participant data collection – At the conclusion of each term (Fall 2014, Spring 2015, Summer 2015) participating sites will be asked to provide selected additional data that will aid in identifying participating students. These requests will likely include two primary components, one for 'primary' SSA participants, and one for 'secondary' SSA participants.

Grantee survey – At the end of the summer term, all participating sites will receive an invitation to complete an online survey designed to gather their feedback on the project as a whole and their assessment of project components specific to their site. Because the number of SSA sites is limited, programs are site specific, and responses to survey questions are intended to represent an institutional perspective, survey responses will not be confidential. The 2015 grantee survey will be substantially narrower in scope than the 2014 grantee survey. The survey will focus on topics that are of greatest interest to DHE, and will primarily be comprised of close-ended items.

DHE interviews – Interviews will be conducted with DHE personnel to gather feedback on SSA processes and outcomes.

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[1] This does not include intensive site-specific evaluation assistance.

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Grantee gathering feedback – UMDI will gather feedback from participants at formal technical assistance gatherings.

Phone interviews – One-hour phone interviews will be conducted with 10 sites in the fall of 2014 to gather feedback about relevant topics (e.g., successes, challenges, next steps).

Site visits – Site visits will be conducted to develop a solid foundation for understanding the SSA programs being offered at each site, and to gather information about promising programs and practices. UMDI will visit 5 sites during the fall of 2014 (those not interviewed by phone), and 5 sites during summer 2015. Site visits will (typically) include three primary data collection activities: interviews with key program administrators and staff, observation of program activities, and brief focus groups with program participants. The duration of site visits may vary, but will typically last about 4 hours. UMDI will work with each site to set an appropriate schedule for each visit.

Site reports – Near the end of each SSA funding cycle (December 2014 and August 2015), each site will be asked to complete a report summarizing their SSA activities, impacts, and outcomes. UMDI will assist DHE in developing a template for these reports. Because the year one report will be submitted at the end of fall 2014, this report may include items which ask sites to describe their plans for spring and summer 2015. Individual site reports will be packaged as a standalone report. Information included in these reports will also be summarized by UMDI, and included in year-end evaluation reports (as feasible and appropriate).

Illustrative case studies – Data collected through observations, interviews, and student focus groups during summer and fall 2014 will be used to generate 2 brief case studies that present students' experiences in SSA programs. These case studies may incorporate the voices of system officials who supported or affected their path from interested, to engaged, to completion. The case studies are intended to contribute to our understanding of emergent program designs, and how SSA programs work (and perhaps struggle) to advance SSA goals (e.g., student enrollment and success in STEM fields).

Interim evaluation report – Highlights from Year 1 Site Reports and the February grantee gathering that have the potential to inform project development, implementation, and/or mid-course correction will be summarized into a briefing memo, which will be presented to DHE and each participating campus. A more complete thematic analysis of relevant data sources will be included in the annual evaluation report.

Annual evaluation report – An annual report will summarize and integrate the findings of data collection throughout the year. It will include formative feedback on implementation, promising practices, and lessons learned, as well as summative findings on progress toward targeted outcomes. The year two annual report will be submitted by September 30, 2015.

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DATA DICTIONARY:
STEM Starter Academy Activity

Release 5.0

Massachusetts Board of Higher Education   **Data Dictionary**
                                                          STEM Starter Academic Activity

LIST OF DATA ELEMENTS

STM001   College ID

An institutional identification code, as assigned by the DHE

STM002   Year (Calendar Year)

The calendar year in which the activity was offered

STM003   Term

The academic term in which the activity was offered

STM004   Student's Social Security Number

The student's social security number

STM005   Student ID

Identification code assigned to the student by the institution

STM006   STEM Starter Academy Aid

Indicates whether or not the student received direct STEM Starter Academy
support

STM007   Extra Support

Indicates whether or not the student received extra support

STM008   STEM Pathway or STEM Career Counseling

Indicates whether or not the student received targeted STEM pathway and/or
STEM career counseling

STM009   Previously Secondary Participant

Indicates whether or not the student was previously reported as a secondary
STEM Starter Academy participant

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**

STEM Starter Academic Activity

STM010   Developmental Math Intervention Participant

Indicates whether or not the student participated in a STEM Starter Academy-sponsored developmental math intervention (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015).

STM011   Developmental Math Completer

Indicates whether or not the student participated in a STEM Starter Academy-sponsored developmental math intervention (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015), and fulfilled all developmental math requirements for your institution by the end of the current reporting period (summer, 2015).

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**
                                              STEM Starter Academic Activity

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STM001   College ID

An institutional identification code assigned by the Data Dictionary Appendix A: Institution Codes

Data Type: Numeric	**Length** Minimum 3 Maximum 3	**Format Example** 000

Code Descriptions

See **Data Dictionary Appendix A: Institution Codes**

Definition

Code used to identify each college or university in the Commonwealth of Massachusetts

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Instructions

Business Rules	Dependency
Mandatory entry	Must match College's ID as specified in Data Dictionary Appendix A – Institution codes. Every record submitted must be the correct college ID and be the same college ID throughout the entire file.

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**
                                                         STEM Starter Academic Activity

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STM002   Year (Calendar)

The calendar year in which the student participated in any primary STEM Starter
Academy activity/event

Data Type: Numeric   **Length** Minimum 4   **Format Example** YYYY
                                         Maximum 4

Code Descriptions

Definition

Instructions

Business Rules	Dependency
Mandatory entry	Each record must be the correct year as chosen when the file is submitted, not be a year previously submitted, and each record must have this same year.

Massachusetts Board of Higher Education   **Data Dictionary**
STEM Starter Academic Activity

STM003   Term

The term in which the events took place

Data Type: Numeric   **Length** Minimum 1   **Format Example** 0
                                        Maximum 1

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1   Fall
2   Winter
3   Spring
4   Summer

Definition

Select **"Fall"** for STEM Starter Academy activities/events from September through the end of the Fall term.

Select **"Winter"** for STEM Starter Academy activities/events that occur during winter term (or intersession).

Select **"Spring"** for STEM Starter Academy activities/events that occur during the spring term.

Select **"Summer"** for STEM Starter Academy activities/events that occur during the summer. These events/activities typically have a start date of May or June and end in July or August (for a 12-week course). Summer activities may cross over summer sessions.

Instructions

Business Rules	Dependency
Mandatory entry	Must be one of the above values.
	Each record must be the correct term as chosen when the file is submitted, not be a term/year combination previously submitted, and each record must have this same term.

Massachusetts Board of Higher Education   **Data Dictionary**
                                                        STEM Starter Academic Activity

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STM004   Student's Social Security Number

The student's social security number

Data Type: Numeric   **Length** Minimum 9   **Format Example** 000000000
(Must include leading zeros)   Maximum 9

Code Descriptions

Definition

Unique identification number assigned by the Federal government to each citizen and permanent resident of the United States

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Instructions

Business Rules	Dependency
Mandatory entry If the student does not have a Social Security number, enter 000000000.	First three digits must be between 001 and 899 (excluding 666), middle two digits must be between 01 and 99, and last four digits must be 0001 and 9999.
DO NOT enter an identification code assigned by the institution for this item. Institutionally assigned identifiers should only be reported in the Student ID data element.	.

Massachusetts Board of Higher Education   **Data Dictionary**
                                          STEM Starter Academic Activity

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STM005   Student ID

Identification code assigned to the student by the institution

Data Type: Alphanumeric   **Length**   Minimum 1   **Format Example** 000000000000000
                                              Maximum 15

Code Descriptions

Definition

Unique code used by the institution to identify students. Institutions may either use
social security numbers for this purpose or an institutionally assigned identifier.
Although this practice is allowed, it is not recommended.

Instructions

Business Rules	Dependency
Mandatory entry	Must be unique for each student submitted.
	Must be > 0 digits and <= 15 digits.

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**
                                                   STEM Starter Academic Activity

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STM006   STEM Starter Academy Aid

Indicates whether or not the student received direct STEM Starter Academy
support

Data Type: Alphanumeric   **Length** Minimum 1   **Format Example** N
                                      Maximum 1

Code Descriptions

Y   Yes
N   No

Definition

Did the student receive direct (STEM Starter Academy grant subsidized) financial
support (e.g., grant, stipend, tuition or fee waiver, etc.)?

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

Massachusetts Board of Higher Education   **Data Dictionary**
                                                    STEM Starter Academic Activity

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STM007   Extra Support

Indicates whether or not the student received extra support

Data Type: Alphanumeric   **Length** Minimum 1   **Format Example** N
                                              Maximum 1

Code Descriptions

Y   Yes
N   No

Definition

Did the student receive extra or targeted supports (e.g., academic tutoring, peer mentoring, etc.)?

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

Massachusetts Board of Higher Education   **Data Dictionary**
                                                                      STEM Starter Academic Activity

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STM008   **STEM Pathway and/or STEM Career Counseling**

Indicates whether or not the student received targeted STEM pathway and/or STEM career counseling

Data Type: Alphanumeric   **Length** Minimum 1   **Format Example** N

Maximum 1

Code Descriptions

Y   Yes
N   No

Definition

Did the student receive targeted STEM pathway and/or STEM career counseling?

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

Massachusetts Board of Higher Education   **Data Dictionary**
                                                STEM Starter Academic Activity

STM009   Previously Secondary Participant

Indicates whether or not the student was previously included in the count of secondary STEM Starter Academy participants reported by your college (spring, summer, or fall of 2014, or spring of 2015), but not previously reported as a primary participant.

Data Type: Numeric   **Length** Minimum 1   **Format Example** 1
                                        Maximum 1

Code Descriptions

1   Yes
2   No
3   Unknown

Definition

Was the student previously included in the count of secondary STEM Starter Academy participants reported by your college (spring, summer, or fall of 2014, or spring 2015), but not previously reported as a primary participant?

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**
STEM Starter Academic Activity

STM010   Developmental Math Intervention Participant

Indicates whether or not the student participated in a STEM Starter Academy-sponsored developmental math intervention (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015).

Data Type: Numeric   **Length** Minimum 1   **Format Example** 1
                                  Maximum 1

Code Descriptions

Y   Yes
N   No

Definition

Did the student participate in a STEM Starter Academy-sponsored developmental math intervention (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015)?

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

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Current as of 9/15/2015

Massachusetts Board of Higher Education   **Data Dictionary**
                                            STEM Starter Academic Activity

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STM011   Developmental Math Completer

Indicates whether or not the student participated in a STEM Starter Academy-sponsored developmental math intervention (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015), <u>and</u> fulfilled all developmental math requirements for your institution by the end of the current reporting period (summer, 2015).

Data Type: Numeric   **Length** Minimum 1   **Format Example** 1
                                      Maximum 1

Code Descriptions

Y   Yes
N   No

Definition

Did the student participate in one or more STEM Starter Academy-sponsored developmental math interventions (e.g., developmental math course, non-credit workshop) during the current reporting period (summer, 2015), <u>and</u> fulfill all developmental math requirements for your institution by the end of the current reporting period (summer, 2015)?

A student who has fulfilled all developmental math requirements for your institution is eligible to participate in degree-credit-bearing math courses.

Instructions

Business Rules	Dependency
Mandatory	Must be one of the values above

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Current as of 9/15/2015

College Level Data	
Name of your Community College:	

Secondary STEM Starter Academy Activities/Events and Participants:	
Secondary events/activities target potential students who are not currently enrolled at a community college.	
How many TOTAL secondary STEM Starter Academy grant supported events/activities were held [e.g., recruiting at local high schools or community centers, organized campus programs or recruiting visits] from the end of spring term, 2015 to the beginning of fall term, 2015?	
How many TOTAL participants took part in secondary STEM Starter Academy events/activities from the end of spring term, 2015 to the beginning of fall term, 2015?	

Interview Protocol for SSA Coordinators and/or Administrators – Fall 2014 (1 hour)

General Information

Interviewee: **Position:**

Community College: **Date/Time:**

Phone Number:

Introduction [5 minutes]

- Thank you for taking the time to speak with me today. The purpose of this interview is to learn more about your institution's SSA programming and activities *this fall* and how you are applying what you've learned through SSA so far as you plan for the future.
- Just to confirm: we're scheduled from _____ to _____ today – does that still work for you?
- As with our interviews this spring, we will be sharing the findings from this interview with interested parties, including the Massachusetts Department of Higher Education (or DHE), and possibly other higher education institutions. Since there are a limited number of SSA sites, we will be unable to report information about your program in a completely confidential manner. However, in the event that you would prefer for a particular response to remain confidential, please let me know, and I will honor your preference for confidentiality.
- I want to let you know that I may need to interrupt from time to time to cover an additional topic during our limited time together, or to follow up on aspects of your comments that fill important gaps in our knowledge.
- (Ask for permission to use recorder before starting the recorder and after.)

INTERVIEW QUESTIONS

Interviewer overview [5 minutes]

1. My understanding is that your college is engaging in (or has engaged in) the following activities funded by the SSA grant.

   Pre-interview summary (Site-specific notes from summer site visit, fall survey, or supplemental data requests)

   _____

   _____

   _____

   _____

   _____

   _____

General questions about fall SSA activities [30 minutes]

2. Can you give me a brief overview of your community college's SSA activities this fall?
   - Probes:
     - Who are the students that are the focus of your SSA programming and activities this fall?
     - How, if at all, do your SSA activities support students' social needs (e.g. feeling a sense of belonging or balancing school, work, and family)?
     - How do your SSA activities support students' academic needs?
     - Are you offering any financial assistance to students through SSA this fall? Please describe.

3. Tell me about what is happening with students who have already been served by SSA [if not discussed above].

   Probes

   a.   How did your SSA program remain engaged with students in the transition from summer to fall (if at all)?

   Are they still receiving SSA services or are they eligible to receive SSA specific services? What does that look like?

   Are these students being tracked in some way? How?

4. Is your institution engaging in any efforts to align STEM curricula with industry needs? Please tell me about them.

5. How did you decide on the activities and practices you are using with SSA this fall?
   - Probes:
     - What were the goals that guided your choices?
     - What resources did you draw upon to choose and design those practices and activities?

6. To date this fall, which of your institution's SSA practices or activities are emerging as the most successful or most promising? Please explain. What factors have facilitated those successes?

7. Given your goals for this fall, what are the indicators you might look for as signs of progress toward those goals? How are you (or will you) measuring or monitoring these indicators?

8. What challenges are you facing in implementing or coordinating SSA programs and activities this fall, and what strategies are you using to address those challenges?

9. Are there additional supports that you believe would make your programming more successful? [Probe for any of the following that aren't mentioned.]
   - Probes:
     - Support from your College?
     - Support from your DHE?

10. Did you or will you participate in any of the working groups David has organized? Why or why not? What are your thoughts about the importance of this kind of "Best Practice Exchange" – as it was originally conceived in the community colleges' proposal – to the success of the SSA initiative as a whole?

In this next set of questions, I'll ask a little about what you have planned for your SSA program: [15 minutes]

11. Looking ahead, what do you see as the key next steps for the effective implementation of SSA programs and activities at your institution?

12. What are your plans (or current activities) for recruiting new participants? Do you anticipate having a larger cohort this time around?

13. What did you learn about recruitment, student support, or programming last year that has changed what you are doing (or planning to do) this year?

14. Does your college envision SSA programming continuing beyond the funding period?

   - Probes:
     - What steps, if any, has the college taken toward being able to sustain SSA services beyond the funding period?
     - Are there program components you anticipate being difficult to sustain? Why?

▪ [*If respondents do not seem to have first-hand knowledge about sustainability issues*] If we want to make a follow-up contact to someone in your college who would have more specific knowledge about sustainability issues, can you recommend whom we should contact?

[IF TIME] Finally, I have a couple questions I'd like to ask about within- and between-campus collaborations and programmatic synergies. [5 minutes]

15. [If time] Do your SSA activities build on relationships or learning from other grant-supported programs (e.g. dual-enrollment, developmental math, Complete College America, Guided Pathways to Success)? If so, please describe the relationships between SSA and those programs and what you are learning or have learned.

16. [If time] How did your collaboration with other campus systems or offices impact your SSA implementation, if at all?

- Probe:
  - What impact, if any, is SSA having on other campus systems such as advising, financial aid, retention supports, and transfer systems?

17. I would like to avoid keeping you for any longer than we agreed. That being said, is there anything else you would like to add about the SSA implementation in general or about this evaluation process?

Thank you for taking the time to talk with me today.

FINAL: 9/23/14

STEM Starter Academy – Selected site visits – Year 2
Observation Protocol – Fall 2014

Cover Page – To Be Completed Before Observation

General information:

College _____   Date _____

Activities observed (*more than one might be observed simultaneously*):

☐ STEM credit courses   ☐ Study groups

☐ Boot camps or prep workshops   ☐ Enrichment activities (list)

☐ Interest workshops   ☐ Research experiences

☐ Self-paced/computer-aided classes   ☐ Internships

☐ Cohort activities   ☐ Online advising or mentoring systems

☐ Students receiving support services   ☐ Dual enrollment courses

☐ Peer mentoring   ☐ Other:

Observation length (minutes):

Pre-Observation Summary

- Brief description of SSA program at this school.

- Specifics related to:

  o Staffing structure –

  o Student selection/participation –

  o Scheduling –

  o Logistics –

  o Student populations –

  o Policies and procedures –

  o Use of software, online resources or tools –

  o Partnerships with community agencies and/or local industry –

- Specific things to look for during the observation:

1

STEM Starter Academy – Selected Site Visits – Year 2
Observation Protocol – Fall 2014

Notes:

- The goals of this observation are to:
    - obtain a general sense of the scope and quality of SSA program implementation at sites that represent a variety of activities designed to address the goals of the SSA initiative; and
    - identify program aspects that offer illustrative examples of the impact of SSA on students.

General

- Briefly summarize the observation in general.
    - What activities were observed (identified on page 1)? For how long was each type of activity observed?

    - What was the purpose of the event being observed?

    - How many people were involved?
        - \# of students _____
            - Characteristics (if available) such as grade levels, demographics, etc.?
        - \# of staff/administrators _____
            - What were the roles of the staff/administrators observed (e.g. instructor, tutor, advisor, mentor, coach, speaker, administrator, etc.?)
    - In general, what was the level of engagement of the people involved?

    - What was unique and/or particularly interesting about what was observed?

    - What was observed that would be helpful to others who wanted to create a similar program?

    - Did your observations give you any insight into program sustainability? Describe.

Program Dimensions

Describe observations related to the following program dimensions:
- Staffing structure used –

- Curriculum –

- Student participation –

- Student support services offered –

- Advising model/structure used –

- Program scheduling –

- Program logistics –

- Policies and procedures –

- Partnerships with local industry and community agencies –

Activities and Support

- In what ways does the SSA program provide:

    o A specific or targeted emphasis on college readiness?

    o A specific or targeted emphasis on STEM career awareness?

    o A specific or targeted emphasis on options for completion (transfer to 4-year colleges, career paths available with 2-year degree)?

- What learning activities are observed?

    o What pedagogical strategies are used?

    o Describe participants' engagement in the activities.

    o Approximately how many students/staff are in attendance?

- What enrichment or retention-related activities are observed?

    o Describe the activities

    o Approximately how many students/staff are in attendance?

    o Describe participants' engagement in the activities.

- What recruitment activities are observed?

    o Describe the activities

    o Approximately how many students/staff are in attendance?

    o Describe participants' engagement in the activities.

- What student supports are observed?

    o Describe the activities

    o Approximately how many students/staff are in attendance

    o Describe participants' engagement in the activities

- Resources and support

    o What physical resources are available to students? (e.g., technology, space)

    o What student supports (academic, social, emotional, etc.) are available to students?

- Any issues which suggest student/teacher/administrator successes, challenges, desires, etc.?

3

Follow-up   4

- Are there specific things you had hoped to observe but didn't have the opportunity?

- Does this observation leave you with follow up questions? If so, list here:

- Based on this observation, are there specific things we should request to observe at a later date?

SSA Site Visit: Student Interview or Focus Group Questions – Year 2, Fall 2014

Welcome: Thank you for coming to this focus group today. I know you are all busy and your time here is very much appreciated.

Evaluator's Introduction: I work for the UMass Donahue Institute – I'm an external evaluator who has been hired by the Department of Higher Education to help evaluate the STEM Starter Academy Initiative (which I will refer to as SSA). My goal is to get your feedback on SSA programs.

Explanation of focus group: I would like to hear from as many as you as possible. Don't feel like you have to answer all the questions, but do participate to the extent you are comfortable. It's okay to respond to one another, and it's okay to agree or disagree with one another. It is very likely that you have different experiences. The point here is to get as much of a complete story about SSA – from your unique perspective – as is possible.

Confidentiality: I will include a summary of this discussion in reports I write later this fall and winter. I won't use your names and will not identify you specifically. For example, I might say something like, "one student identified one-on-one tutoring as a major facilitator of learning."

Also, please respect people's privacy once we leave this group. During the group, we may mention faculty and other SSA students by name (their privacy will also be preserved in the report). Our discussion is confidential. Is that clear?

Recording: I will be recording the discussion because it would be impossible for me to accurately write the whole the thing down. I will be transcribing the recording, and one or two of my colleagues will also review the transcript. No other people will hear or see the whole discussion. Does everyone here agree to be recorded?

I will turn on the recorder now and let's start.

I am here with…. This is just a reminder that this conversation is being recorded.

Questions:

1. Tell me a little bit about how you got connected with SSA – for example, did you participate in summer programming, did you take a workshop or boot camp, or did you receive some other sort of support?

   a. What convinced you to participate?

2. How are you staying involved with STEM Starter Academy, if at all? Why do you stay involved?

3. What are the ways that being a part of SSA has helped you this fall?

4. What are the best things about the STEM Starter Academy program? Can you give me an example?

5. What do you find the most difficult about the SSA program? Can you give me an example?

6. If you were in charge of this program, what would you change about it? Is there some kind of support that would make your experience better?

7. Has being involved with SSA changed your ideas about your major here at this community college?

8. Has being involved with SSA changed your ideas about what you'll do when you finish here?

9. What kinds of students are the best fit for the SSA program here? Why?

10. Is there anything else you'd like to share about the SSA program at your campus?

Fall 2014 Site Visit Summary

UMDI evaluators visited 4 of the 15 STEM Starter Academy sites in November and December 2014: Berkshire, Bunker Hill, Massasoit, and MassBay. This section summarizes data collected during those visits and is organized to reflect the structure of the current SSA Model. For more detailed summaries of each of the four sites, including student feedback, see Appendix A. For a complete description of site selection methods and data collection and analysis procedures, please see the Methods section of this report.

Overview

Fall programming at SSA sites reflected a dual focus: recruitment and readiness activities for a new cohort of students, and retention and completion supports for current SSA students. Although program models continued to vary across sites, by late fall site administrators had many reflections on which elements were showing promise for bringing students into and moving them through the community college STEM pipeline. Berkshire highlighted the success of a new recruitment model that brought more students to SSA from local high schools. Bunker Hill and Massasoit (using different strategies) highlighted their students' success in progressing through developmental mathematics. MassBay emphasized the impact of their industry mentorship and internship programs in preparing students to complete and move on to careers. The following sections briefly capture data about SSA activities at the four sites at the time of our visits.

Recruitment and readiness

       Early recruitment and outreach. Every site was engaged in recruiting for SSA in fall 2014. Across the four sites, recruited populations included current high school students, incoming community college students, and current community college students.

       Highlights

- Berkshire piloted a high school liaison program as a recruitment initiative in fall 2014 that involved offering stipends to high school staff and faculty to help recruit for SSA and report on recruiting numbers.

- Massasoit faculty taught developmental mathematics in area high schools using the modularized self-paced curriculum used in its summer bridge program. The initiative moved students toward readiness for college-level mathematics while improving the relationship between the college and area high schools.

       Summer bridge programs. All four sites offered a free or low-cost summer bridge program focused on (1) boosting students' awareness and interest in STEM careers and programs, and/or (2) preparing students to enter STEM fields in college. These programs ranged in length from ten days to eight weeks. Three sites included accelerated coursework: two offered developmental mathematics and one offered engineering and digital imaging. The fourth site included placement test preparation in developmental mathematics. Two sites offered $1,000 stipends to students who completed summer bridge activities; the other two did not offer stipends but provided free meals (and one of these charged a $100 fee).

1 of 14

Highlight

- Bunker Hill followed its STEM-contextualized, group-work oriented, accelerated mathematics summer bridge program with a three to four day workshop designed to reunite student cohorts and prepare students for gateway STEM courses.

Retention and completion

Academic year engagement and support. All four sites used SSA funding to continue to engage and retain students through the academic year. Coordinators were a central support at each campus, maintaining contact with SSA students and connecting them to other resources. STEM-themed speakers, events, and workshops were also widely held.

Highlights

- Berkshire started a support program in the fall for students who had completed the summer bridge that included engagement and support activities, such as peer mentorship, seminars on college success and STEM careers, field trips, cohort meetings, and check-ins with faculty. Students who completed the requirements of the fall support program were offered a scholarship for the spring semester.

- Massasoit piloted a "STEM Scholars" program to engage SSA students in leadership activities and to encourage relationship building among STEM students and between students and faculty/staff.

- MassBay held a "STEM Expo" each semester during which current STEM students presented their final projects and interacted with other community college students, prospective students from local high schools, and local industry representatives.

- Bunker Hill offered free accelerated mathematics clusters and workshops to current STEM students with developmental mathematics placements in the fall and the spring.

Internships, research experiences, and mentorship. Two sites used SSA funding to offer experiential opportunities to connect students to and prepare them for STEM careers. Massasoit equipped a lab and started an ongoing research project that was supported by a rotating slate of adjunct faculty. Students were offered paid research internships during the summer and the academic year, working on either a genomics project, or a "native pollinators" project. MassBay supported two technology-based internship programs through SSA: one on-campus program through which students interned at the college's technology help desk, and one off-campus program through which students attended interview preparation workshops (including resume preparation) before participating in a "speed networking" event with prospective internship sites.

Highlight

- MassBay piloted a mentorship program in fall 2014 that paired current STEM students with mentors who were professionals at a local biotechnology company.

Tutoring and academic support. Three sites invested SSA funds in additional tutoring and instructional support for STEM fields during the academic year, including classroom-embedded "learning specialists" and faculty who facilitated study groups.

Fall 2014 Site Visit "Snapshots"

Berkshire Community College

Year 1 Review

The STEM Starter Academy program at Berkshire Community College focuses on bringing recent high school graduates into STEM fields at BCC. It is composed of a three-week summer bridge program followed by a fall engagement and support program. Each cohort of students enters the program with the expectation that they will move as a group through both parts of the program. The SSA program had strong retention from summer into fall. High school recruiting liaisons encouraged and supported underrepresented students' efforts to apply. The SSA program is overseen by the Dean of Business, Science, Mathematics, and Technology and managed by a part-time coordinator.

Recruitment and readiness components

- Three-week "Summer Success Program" – This program focused on building students' awareness of STEM fields, increasing their readiness for college, and building relationships among a cohort of peers. Students were offered a $1000 scholarship for the fall for participation in and completion of the summer program.

  SSA participants were offered a STEM "success kit," which included a gas card, a bookstore voucher, and a tablet computer (on loan to students until two consecutive semesters at BCC had been completed).

Retention and completion components

- Fall support program – The fall program included requirements for periodic check-ins with faculty and peer mentors, attendance at group meetings and STEM-engagement and college-skill-building workshops, and participation in STEM-themed field trips. A scholarship for the following spring was offered as an incentive for completion of program requirements.

  SSA students were encouraged to apply and supported in their application to be "STEM scholars" during their second summer. This is a separately funded program that targets more advanced students. Existing STEM scholars served as peer mentors for SSA students in the fall.

Year 2 Description

The second year of SSA at Berkshire Community College had similar components as Year 1, but included some changes to recruitment and summer bridge programming based on lessons learned in the first year. Notably, a new and successful recruitment strategy, which offered stipends to high school faculty and guidance counselors to act as "liaisons" between SSA and the high school, yielded a larger cohort for summer 2015. In addition, the structure of the summer program was shifted to emphasize cohort relationships and college skills earlier and to offer a more intensive mathematics remediation focus. UMDI conducted a site visit to BCC near the end of the fall 2014 semester.

Recruitment and readiness components

Recruitment liaisons.BCC offered $250 per semester to high school STEM teachers or guidance counselors to do internal recruitment for SSA. Recruitment liaisons met with SSA staff at BCC, set up recruiting events for the SSA coordinator, and met with interested students at their schools. The liaisons acted as a primary contact person for SSA at their school, supporting prospective students, but also

encouraging students to apply who they think would be a good fit for the program. To get the stipend, they completed a survey reporting their activities and contact information to the SSA coordinator at BCC.

Recruitment open house events. Students, parents, and high school liaisons were invited to open house luncheons at BCC where they met key faculty and staff, attended brief hands-on STEM demonstrations by faculty, took a campus tour, and received an SSA application. Attendees had to register for the event in advance, which provided the SSA coordinator with contact information for following up on applications.

UMDI observed the welcome session at one of these open house events in early December. It was the middle of the day on a snowy Thursday, suggesting a non-trivial level of motivation among the attendees. Twenty-five people were there, including students, most of whom were with a parent, and a couple guidance counselors. Two college faculty members and a handful of current SSA students were also there. The SSA coordinator met attendees at the door to sign them in. She was very welcoming, greeting each student and parent by name and even recognizing several students by sight.

The Dean of Business, Science, Mathematics, and Technology emphasized the statewide nature of SSA program and talked about the importance of being "critical, scientific thinkers" in any field. He personalized his message by talking about his own path and how an opportunity like SSA might have helped him. The college president also spoke briefly, offering strong support for the SSA program, emphasizing the quality of the STEM programs at BCC (saying BCC students can transfer "to any college in the country and succeed"), and highlighting the "bargain" that comes with choosing a community college. She knew some of the current SSA students by name and seemed very familiar with the program. Both the dean and the coordinator emphasized that the program is about exploring STEM interest and does not require that students make a "lifetime commitment" to STEM.

Summer success program. During the first year, academic preparation in mathematics, reading, and writing (for those students who tested below "college ready" on assessments) took place during the first week of the bridge. This was followed by a week of college-readiness workshops, then a week of STEM-themed exploration. In Year 2, the first week (mandatory for all SSA students) focused on college readiness and self-exploration, and helped to build relationships among students. The second week included academic preparation

> *"The tools that you learn are very helpful. And you learn a lot about yourself - how you like to study and what you need to do to be successful."*
> *BCC SSA student*

in mathematics only (mandatory for those who had not placed into college-level mathematics). The third week was voluntary, focused on STEM exploratory activities, and included hands-on workshops with college faculty and field trips. Students were offered $500 in fall scholarships per week for participating in the first and third weeks ($1000 per student, total).

> *"It helps having people to root for you, especially in a new environment. It's scary. College is scary. You don't know what to expect."*
> *Berkshire SSA student*

Students who were part of the summer 2014 cohort felt that the tools and strategies they learned for transitioning to college had been very helpful, both in terms of concrete systems (e.g., taking notes, sitting in the strategic locations in the classroom) and in terms of self-knowledge. One example a student gave was that she learned that "you *can* go and ask your professor how you're doing …. You might think you're doing really great and then, you're not …. But if you don't catch that, it might be too late to fix it when you do find out." In addition, having an early introduction to the campus helped students feel better prepared for the academic year. One student said, "It helped me acclimate to the campus. I was here three weeks over the summer whereas [for] other [students], September was their first day. I already had the campus down. I had friends that I could go to if I needed to know how to get to a certain place." Students became comfortable with staff, faculty, and

peer mentors, so they knew where to turn when they needed help. One said, "The bridge to college thing over the summer really helped me get to know people and to get more comfortable. You always know that [the coordinator] is there to help you."

Retention and completion components

Fall support program. Students who complete BCC's summer success program were transitioned into the fall support program, which included a mix of requirements including mentorship, college success skills workshops, STEM exploration activities (i.e., field trips and seminars), community service, cohort meetings with the SSA coordinator, and periodic check-ins with faculty. Students who met the requirements were offered a scholarship for the following spring semester.

> *"The progress reports helped me know where I was at in my classes. I was really worried about my math class so I went to meet with my professor to go over things and that gave me confidence."*
> *Berkshire SSA student*

In general, students felt that the fall support program offered helpful structure as well as a continuation of the support networks they had built over the summer. As one said, "You know you're not going to fall through the cracks." Both students and administrators commented that the requirements for the fall program might need some adjustments. Nevertheless, students found many of the requirements useful. For example, students felt that meetings with mentors and with faculty were helpful and some commented that they were likely to continue with those practices even if they were not required.

> *"You think about new opportunities that you probably would have never thought of for yourself. It makes you think that maybe this is something that I want to look into more. It just opens up those gates of opportunity."*
> *Berkshire SSA student*

Summer and fall STEM exploration activities were a highlight of the program for many students. They reported learning about new fields and opportunities they had not considered. One said, "It helps you develop a path to go down—what the next step is going to be, even after BCC, when you graduate, if you [want to] go to a four-year school."

Bunker Hill Community College

At Bunker Hill Community College, STEM Starter Academy is composed of two main components: accelerated developmental mathematics course "clusters" (combining two courses into a single term), and workshops introducing students to core concepts in introductory STEM classes. The program targets current and incoming STEM students who have developmental mathematics placements. It is run by a STEM coordinator who has some staff support and reports to a committee composed of the Dean of Science, Engineering, and Health; the Dean of Mathematics and Behavioral Science; the Director of Institutional Effectiveness; and the Director of Grants Development.

Year 1 Review

Recruitment and readiness components

- Accelerated developmental mathematics clusters incorporating biology and engineering applications were designed in spring 2014 through a collaboration between mathematics and science faculty. Two clusters were designed: One paired two developmental courses, MAT097 and MAT099, and was worth six credits. The other paired a developmental course with a college-

level course, MAT099 and MAT194, and was worth seven credits. Each cluster moved students through a year of mathematics in one semester.

- Two sections of each cluster were offered in summer 2014 during an intensive eight-week session, with classes running three hours per day, four days per week. Each section had 15 students, an instructor, and a teaching assistant. Participating students had access to a STEM study space and facilitated study groups and received support from the STEM coordinator, peer mentors, and tutors. Students participated in the clusters for free (including free textbooks) and students who completed the session were offered a $1000 stipend. Fifty-nine of 60 students completed their respective courses.

Retention and completion components

"After a while, students get discouraged. Especially with math. Our feelings just go down … it [could take] all these years to finish just the [prerequisite math]. Instead, [through SSA] after 6 weeks, we're already ahead."
Bunker Hill SSA Student

- Four-day workshops on engineering or biology were offered at the end of the summer to students who had participated in the summer mathematics clusters. Taught by faculty who had collaborated on the mathematics cluster curriculum, these workshops were designed to introduce students to the content of the course and the major, teach college success skills, and solidify cohort connections that were built in class. The workshops were free and voluntary. Cluster participants were offered $200 for participating. Forty of the 60 summer cluster participants attended the workshops.

- SSA expanded academic support by funding additional facilitated study groups in chemistry, biology, mathematics, physics, and other STEM fields. Faculty and professional tutors were paid to help students in a designated STEM study area.

- A STEM learning community met every two weeks and featured guest speakers, advising, registration help, and transfer counseling.

Year 2 Description

In Year 2, Bunker Hill extended its summer offerings into the academic year, offering the developmental mathematics clusters in the fall 2014 and spring 2015 semesters, and the engineering and biology workshops in January. The college also carried forward its support of "cohort 1" students who had completed summer mathematics clusters with ongoing tutoring, advising, and learning community activities, as well as continued contact by the STEM coordinator.

"The fact that we get all this help, it makes me feel more motivated, that I'm not behind all the time."
Bunker Hill SSA student

Recruitment and readiness components

Developmental mathematics clusters*. Bunker Hill offered one section of each mathematics cluster in fall 2014, taught by the same faculty and with the same curriculum as the summer session, but over a longer, 16-week term. The clusters were offered for free, including textbooks, but students were not offered a stipend. Each section had a student acting as assistant, mentor, and tutor in addition to the instructor.

During UMDI's observation of the 097/099 cluster, students were very engaged and the class was highly interactive. There were twelve students, the professor, a peer tutor, and the SSA student assistant. All the chairs (with connected desks) were on wheels and the room had many movable and fixed white boards. This made it easy for students to move to work in groups or move to watch something being worked out on one of the boards. A couple students who sat on their own and were quietly making up an exam, but

the rest were gathered in groups of about four around one of the instructors and a white board. Each student had a sheet of problems and seemed engaged and comfortable working alone or together, or asking for help or trying to think through things out loud. The professor had a collaborative, friendly, and non-hierarchical style. She was sitting in one of the chairs, like the students but would regularly get up to write on the board. After writing a problem on the board, she would then ask the students to figure out the logic of the steps to solve the problem and give them hints only when they seemed really stuck. She tried to model this teaching style to the two teaching assistants. At one point, she looked over to one of the other groups and said, "Write it up on the board! Don't let [the assistant] do them anymore. Party's over. Show me the money."

> "If you didn't understand something, it wasn't like everyone was going to look at you like, 'why are you asking this question?' There is no feeling of standing out. Everybody was like, 'you need help with something? Let's solve this problem together.'"
> Bunker Hill SSA student

Students who took either the fall or the summer clusters had many positive things to say about their experience. They appreciated the ability to accelerate their progress through developmental mathematics, which shortened the time until they could take courses in their major. Although the pace was challenging (especially for the summer students), students reported feeling well supported by faculty, tutors, and SSA staff. In addition, they felt that the interactive style of the class made it easier to learn the concepts and the contextualized examples made the mathematics content engaging. According to students, the faculty seemed genuinely invested in students' learning and growth. Faculty shared their own experiences that illustrated applications of the mathematics problems, they pushed students to work hard without being impatient, and they followed up with students individually outside of class. One student said, "Some professors, when you ask for help, speak to you … like, 'You should already know this information', but the SSA professors are like, 'We're going to teach you this step by step by step.'" Finally, some of the summer students felt that the $1000 stipend had made it easier to make the intensive time commitment.

> "In a typical class, you don't get one-on-one. … with the [SSA] class, the teacher knows you more. They pay attention more to you and try to help you."
> Bunker Hill SSA student

Being part of a STEM-specific class seemed to build students' sense of connection to each other and a sense that they were part of "something special." One student said she felt that "everybody there is on the same page of STEM" and that it was easier to relate to students who "have the same mindset and who are trying to go after the same thing." The sense of connection was evident when UMDI spoke with students in the focus group. They seemed to feel comfortable with one another. Even having a common experience seemed to connect students—students from the fall and summer mathematics clusters openly asked questions and shared advice with one another. As further evidence of this sense of connection, the SSA coordinator reported that ten students from the summer session signed up for the same section of mathematics in the fall so they could be in class with each other and with the instructor they knew, despite the fact that the section met at 7 a.m.

Retention and completion components

STEM workshops. A second session of these introductory workshops in biology and engineering were offered in January for students who took the SSA mathematics clusters during the fall semester. During our visit, students who had taken the summer workshops said they had been helpful in preparing them for STEM courses in the fall. One student said, "This was my first semester taking an engineering course, and that workshop just told me everything that I would be dealing with. It made me feel more

comfortable. I was actually stoked to come back to school and be a part of it because I felt like there was somebody there to support you."

Learning community. The STEM learning community offered a series of workshops, information sessions, and guest speakers throughout the course of the semester. Topics included an introduction to STEM, internships, STEM advising, and transferring. A guest speaker from Harvard Medical School started off the series.

> *"I felt special [to be part of SSA] … I felt like somebody actually cared about what I was doing, to put me in a group like that, I felt proud."*
> *Bunker Hill SSA Student*

The day of our site visit, the guest speaker was Steven Poynter, a Ph.D. candidate working in chemical biology at the Broad Institute (Harvard and MIT), who had started his college career at community college. He emphasized, "I'm not special. Anyone could do the same thing." Twenty-five students attended, sitting on stools at long lab benches and eating free pizza. They were quiet and seemed to be listening carefully to the speech. Students asked practical questions, such as, "How much to grades matter?," "How do you get an internship? Are they paid?," "How much do you have to teach yourself?," "What kind of commitment is it? Could you have a family? Kids?"

Massasoit Community College

At Massasoit Community College, SSA had several components: a five-week intensive summer bridge program for incoming students focused on developmental mathematics (supplemented with STEM career awareness, research exposure, and college success skills), an academic-year STEM scholars club, a research internship program, a self-paced mathematics program in area high schools, and a mathematics boot camp to help students improve their placement test scores. Across these components, target populations included high school students, incoming, and current community college students. Underrepresented groups were recruited through engagement with high schools in nearby underserved communities. The SSA program at Massasoit is overseen by the dean of mathematics and science and managed by an SSA coordinator and a STEM project coordinator.

Year 1 Review

Recruitment and readiness components

- Summer bridge program – Five-week program, focused on developmental mathematics and using a computer-based, modular curriculum. Included STEM awareness and research activities, field trips and invited speakers, academic advising and mentoring, and supported open mathematics lab time.

- Mathematics boot camp – Program offered to current students using self-paced mathematics software to prepare and improve scores for placement testing.

Retention and completion components

- Summer research internships – Current students work with faculty mentors on ongoing research projects in genomics and ecology in a paid internship. Summer research students acted as mentors to summer bridge program students, who worked on a small research component.

- Infrastructure upgrades – Two new computer labs were built for self-paced developmental or college-level mathematics courses. Equipment was purchased for research labs.

- Curriculum revision – Developmental mathematics sequence was redesigned and new mathematics curriculum was developed.

Year 2 Description

During Year 2, Massasoit continued its summer bridge and summer research programs and introduced new retention- and completion-oriented components.[1] The latter included a "STEM scholars" program to support and retain STEM students through the academic year and an extension of research internships into the academic year. Massasoit also boosted its recruitment and readiness efforts by offering developmental mathematics at area high schools using its self-paced modular curriculum.

> *"I wasn't going to take any science classes, but now that I'm [in] the STEM internship, I've changed my entire major."*
> *Massasoit research intern*

Recruitment and readiness components

Summer bridge program. Massasoit planned to replicate the five-week summer bridge program focused on developmental mathematics in Year 2. Both students and administrators felt that the model from Year 1 had been successful. Students who participated in the 2014 summer bridge said that it helped them gain confidence in mathematics, build mathematics and science skills, prepare for college, and learn about new career paths. One student said, "When I came to Massasoit, I had no clue what to expect, what to do …. I applied to SSA because I thought it would help with my math skills …. I started the lowest you possibly can with math, and next semester [the first spring following entrance at Massasoit], I'll be up on my 5th level already. I'm going up." The mathematics was intensive ("We did math every day, all day," said one student) and students appreciated breaking it up with career-oriented speakers and field trips. The students also felt well supported, despite the intensity, and consequently gained confidence in their own skills. "Now I don't really hate math," said one student, "I can understand it now. I can understand science now."

> *"Having [the SSA program] get you prepared for [college] is huge; it's such a big difference. I was so nervous my first day of SSA, but my first day of starting the school year, I was so excited. I was like, 'Oh, I can't wait. I know where all the buildings are. I know what to expect. I know where all the classrooms are and I already know some students, so it's going to be great.'"*
> *Massasoit SSA Student*

Coordinators and faculty were accessible and supportive, according to students, helping with coursework, advising, and college skills such as time management. One student said she talks with one of the coordinators "all the time about what [she] want[s] to do and what [she has] to do to get through school." Finally, students appreciated the head start they received in terms of being prepared for college life. One student said, "I feel like if I didn't start in the summertime, I probably wouldn't have lasted as long as I have now."

Developmental mathematics in area high schools. Massasoit faculty taught six sections of developmental mathematics (four funded through SSA) at area high schools in fall 2014 using the computer labs in those schools and the colleges' self-paced, modularized mathematics curriculum. The goal of the program was twofold: to boost high school juniors' and seniors' mathematics readiness and to develop a relationship between Massasoit faculty and high school students as a potential recruitment tool. In some cases, the courses were used for mathematics credit recovery or as part of Educational

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[1] Massasoit's plans to expand the summer bridge program to a second campus with a focus on engineering were likely postponed due to the 9c budget cuts.

Proficiency Plans for students with a low MCAS scores. Massasoit pays for the ALEKS software access codes for students.

Retention and completion components

Research internships. Based on the success of the summer research internships, Massasoit piloted an academic-year research internship program in Year 2. Students worked ten-hours a week on

> "We ask questions and create things physically—really create things. We do testing and get data in. I love being a part of it."
> Massasoit research intern

either a computer-based genomics/bioinformatics project describing fruit fly genes or a project focused on ecosystems and native pollinators. Students and faculty mentors were paid through SSA. Some research interns had participated in the SSA summer bridge, some had done summer research internships, and others were new to SSA. Positive word of mouth spread about summer and fall internships and the coordinators reported in the fall that students were "already lining up for next semester."

Students who were doing fall research internships or had done summer research internships had overwhelmingly positive feedback about their experiences. In addition to bolstering their resumes, student interns reported that they gained confidence, new skills, awareness, and a sense that they were doing work that was "benefitting the science world." According to students, talking with faculty research mentors exposed them to new career ideas and changed their way of looking at the world. One said, "Science is

> "When I met with [the coordinator] to talk about my courses for next year, we actually worked out a plan for me to get into a program at a four year school. We looked into different schools to see what I had to do, the grades that I had to get."
> Massasoit SSA student

incorporated in a lot of things I didn't even realize." Another explained that participating in research helped him "have a better perspective on what's actually out there. Everyday things that you just walk by or don't even notice that you can learn from or change, or make a difference in." Students also appreciated learning in an experiential way. One said, "I like getting to do things in the in the internship that you can't really get out of a regular class …. I get to actually set up the experiment, set up the question and see if you can answer it." Several students commented that participating in internships helped shape their educational pathways and career aspirations, including one who said, "[I] changed my major to be computer science because I actually love doing the research."

"STEM Scholars" program. Former and current SSA participants and other STEM students were invited to participate in this voluntary program designed to support students in their transition into the first year of college and build community around STEM interest. SSA coordinators sought student input and leadership for the program in the fall semester. The emerging outlines of the program included monthly meetings, a career seminar series, a peer mentorship program, and possibly field trips. Administrators hoped the program would provide students with a way to stay connected to their peers, faculty, and staff; gain new knowledge and awareness around STEM career

> "[By] having [students] create the career seminar series—that's going to allow them to build up those skills that are really necessary, like being on top of things, project management … where they'll learn by doing it as opposed to learning by being told. We can incorporate study skills and life skills into that where they are just doing it and learning from it that way."
> Massasoit SSA coordinator

possibilities; and learn leadership and success skills that would serve them in college and career.

UMDI observed the introductory meeting of the STEM Scholars. Fourteen students attended along with a handful of STEM faculty. Pizza was provided. Students were very engaged as the SSA coordinator explained the initial vision for the program. The coordinator's tone was conversational and students seemed to have good rapport with him and with each other, showing a willingness to ask questions and make suggestions. The students seemed excited about the new program and interested in taking on the kinds of leadership roles and tasks encouraged by the coordinator (e.g., to invite guest speakers or design activities). Students said they liked the idea of having more regular contact with other STEM students. They were also interested in shaping the SSA program as it moved forward, with several wanting to select and work with future SSA students. Students' questions possibly suggested a desire to feel that their participation was exclusive or special. For instance, they asked how many of the SSA participants were invited to the STEM scholars program. Administrators hoped the program would become "higher profile" so that participation could be seen as a "reward for motivation."

Year 3 Plans

Looking ahead, Massasoit SSA administrators and staff thought about expanding their summer academy to include aspects of computer programming. They also considered starting programs specific to students interested in engineering or allied health. In addition, they hoped to expand and strengthen their relationships with industry, both to improve the prospects for sustainability of their existing programming and to build linkages that would help students secure internships and increase their awareness of options.

MassBay Community College

The STEM Starter Academy program at MassBay Community College included a wide array of opportunities and support for a range of students, including high school students, incoming students, and current students. MassBay's programs focused on building STEM interest and awareness, boosting readiness in developmental mathematics, supporting transitions into career, and supporting four-year college transfer. MassBay attempted to recruit underrepresented groups by reaching out to People of Color in Independent Schools – New England (POCIS-NE) by generating marketing materials in Spanish and Portuguese and by offering STEM workshops for female students. Different students participated in different elements of the program, although there was sometimes overlap. A large team of faculty and staff coordinated the various elements, under the direction of the dean of Science, Technology, Engineering, and Math and two SSA-supported staff coordinators. SSA funding often contributed to sustaining or expanding existing successful programs at MassBay, but was also used to advance new innovations for supporting and retaining students.

Year 1 Review

Recruitment and readiness

- *Summer bridge program for high school students*. In these two-week programs, students chose to participate in either intensive, experiential, accelerated college-credit coursework, or a series of non-credit exploratory workshops. Students paid $100 for either option. The coursework option (only for juniors or seniors) included either an engineering design course (4 credits) or a cyber-security awareness course (2 credits). The workshop option took place over four 2.5-day workshops, all based on computer coding but included elements of engineering, electronics, design, and robotics.

- *Summer workshops.* One week workshops for high school and existing MassBay students were offered. These hands-on workshops focused on introducing life sciences or biotechnology.

- *Spring workshops*. Spring STEM workshops for high school student about topics such as marine biotechnology and "artbotics" were offered. Two of these workshops were offered specifically to female high school students.

Retention and completion

- *Internship programs*

    o TechBay Internships – Students participated in paid internships working at the college's technical support center to help fellow MassBay students. Interns gained confidence while learning applied technology skills and job-relevant soft skills.

    o Technology Internship Program – Students attended a speed-networking event on campus with employers who had committed to offering internships. Before the event, students attended a resume writing workshop and mock interview session. Thirty-eight students participated and 15 received paid or unpaid internships and co-op credit.

- *STEM Expo*. A biannual event that featured student-created exhibitions of work developed in STEM courses. The event offered current MassBay students an opportunity to learn about STEM fields, and students from middle schools and high schools were invited to learn about STEM programs at MassBay. Local employers and community members were also invited to learn about MassBay's STEM programs, and occasionally students received job offers through the Expo.

- *Tuition assistance*. Tuition assistance for the fall was offered to MassBay students who took one of eight gateway STEM courses during summer 2014 and continued at the college in the fall.

- *Professional development*. Support was offered for faculty and staff to attend regional and statewide workshops, conferences and seminars and to host STEM guest lectures on campus.

- *Investment in STEM classroom infrastructure*. Teaching infrastructure investments included IBM ThinkPads for mathematics classrooms, which allowed faculty to demonstrate concepts in Excel and students to collect and analyze real-time data in the classroom.

Year 2 Description

During Year 2, MassBay focused its SSA efforts around student supports, with an eye toward retention and completion. The site introduced both industry- and peer-mentor programs, invested in instructional support for developmental mathematics and information technology classes, and facilitated curriculum alignment efforts with industry standards in information technology and computer science. MassBay also continued its summer bridge program, internship programs, and STEM career exploration events.

Recruitment and readiness

Summer bridge program for high school students. Two-week program included course and workshop options, a STEM-focused campus tour, industry speakers, an academic success workshop, an introduction to the MetroWest College Planning Center, and a presentation on STEM careers and STEM programs at MassBay. Year 2 course options included an engineering design course (using industry-standard SolidWorks 3D engineering design software) and a digital imaging course. Workshops were offered in "Artbotics," where students build and program interactive, kinetic sculptures; "mobile apps," where students create their own Android applications using the App Inventor visual programming language; and coding, where students learned to use "Scratch" visual programming tools or were

introduced to fundamental computing concepts on "Raspberry Pi" small, programmable computers. MassBay leveraged funds from a Boston Area Advanced Technological Education Center grant to support the workshop portion in Year 2.

Academic support. SSA funding was used to add instructional support for courses and to pay students to act as peer mentors, tutors, study group facilitators, or teaching or laboratory assistants. SSA also supported a dedicated information technology / computer science laboratory staff position. This position freed some MassBay faculty to engage in curriculum development and instructional design.

> *"Having that extra help for students in a lot of these [experiential] courses is really important. It's about having somebody close by they can reach out to when they get stuck. Because when you get stuck, it's … about doing. If you cannot do it, then you cannot move forward."*
> *MassBay faculty*

As a key piece of this instructional support, trained learning specialists were embedded in self-paced, technology-integrated developmental mathematics classes during the fall and spring semesters. During our observation of one of these "Math 1-2-3" classrooms, the learning specialist was one of two instructors working with eight students. The students were engaged with their work; a couple students worked together on problems and many wrote out problems in their notebooks at the encouragement of the instructors.

According to the lead instructor, the self-paced format of the course and the additional instructional support allowed the instructors to provide students with individualized help and attention. Our observations corroborated this. The software allowed instructors to track the progress of individual students, and the lead instructor seemed to be familiar with each student's particular status. In the classroom, the learning specialist focused on one-on-one intensive work with a few students, allowing the lead instructor to circulate and check in with other students about their progress. During our observation the lead instructor approached several students to offer targeted support related to their progress in the course. She offered, for example, to help them "make a plan" to complete a number of modules by the end of the semester.

Retention and completion

STEM mentor program. MassBay piloted a mentor program in the 2014–15 academic year that matched 38 employees from a local biotechnology company (Genzyme/Sanofi) with 41 MassBay STEM students selected from underrepresented populations. Both students and mentors were offered training and guidance, and students were asked to agree to a code of conduct. Mentors and mentees met at least monthly and also communicated via email or phone. Mentees participated in group and individual meetings with the coordinator and also attend STEM-career themed workshops (which were open to other MassBay students, as well). Administrators felt the program served as a strong retention tool.

> *"The mentorship program … helped shape my career goals. I have met with wonderful professionals … We talk about our lives, career path, and our future goals. I believe this mentorship program will help me grow into [the] professional world."*
> *MassBay STEM mentee*

Students who participated in the STEM mentor program were overwhelmingly grateful for the experience and positive about its benefits. They said that they felt that their mentors were easy to talk to and had been generous in sharing time, despite their "packed schedules." Mentors gave mentees tours of their labs and talked about their daily work, which helped students to imagine applications for their topics of study. One student said, "I get to see what I'm studying and how it can be used in real life." Mentors also discussed the paths they

had taken to get to their careers and offered advice to students about moving ahead in their educational pathways. One student (a first-generation college student preparing to transfer to a four-year school) said, "I knew where I wanted to go, but I didn't know the steps between here and there. [Having a mentor] makes it more realistic. It's great to have somebody who's been through it [to ask,] What should I focus on? What to expect? How was it? Every time I have a question, I text him. I didn't know about all these things I had to do."

   Technology internship programs – In Year 2, MassBay continued to support TechBay internships and the Technology Internship Program through SSA. One student, who received an internship through the Technology Internship Program, explained that it was a valuable opportunity to learn to adapt skills learned in class and use them in an applied setting. The internship involved redesigning a website for a local company. The student said, "It was a good way to see a different side of IT. The company was using a different platform than I was used to, so being able to figure out how to [adapt to that platform] was something I couldn't learn in school. Everyone is going to use a different platform that I will have to learn."

STEM career exploration events – SSA continued to support the STEM seminar series and Friday forums (affiliated with the STEM mentor program), where faculty and staff invite industry leaders to speak with students about STEM careers. MassBay also continued to use SSA funds to support the STEM Expo events, which simultaneously offered exposure to STEM fields of study for current and prospective students, professional development for current STEM students, and relationship building between the college's STEM programs and local community and industry.

Summer 2015 STEM Starter Academy Site Visit Administrator Interview Protocol (1 hour)

Final 6/24/2015

General Information

Interviewee: Position:

Community College: Date/Time:

Pre-interview summary
(Based on previous data: Year 1 site reports, Fall/Winter (Y2) interviews, survey data, and Spring (Y1) interviews)

Brief description of SSA implementation at this site:

Key programmatic elements of implementation strategy at this school:

- Target populations and strategies for recruiting under-represented groups -

- Summer bridge program -

- Academic year programming and support -

- Experiential learning opportunities -

- Career exploration activities and support -

- Support for transition to 4-year institution -

- Faculty professional development -

- Cohort model? -

- Other -

Key successes:

Key challenges:

Unique features:

Site-specific follow-up questions:

Introduction [5 minutes]

- Thank you for taking the time to speak with me today.
- This interview will focus on your Year-Two SSA activities. The purposes of this interview are
  - to capture your reflections on the successes and challenges of implementing SSA programming and activities at your institution this past year,
  - to learn about your site's spring and summer SSA activities, and
  - to get a bigger picture view of the main elements that make up SSA at your institution.
- We will share findings from this interview with interested parties, including the Massachusetts Department of Higher Education (or DHE), other higher education institutions, and other relevant stakeholders. Since there are a limited number of SSA sites, we will be unable to report information about your program in a completely confidential manner. However, in the event that you would prefer for a particular response to remain confidential, please let me know, and I will not report on it publicly.
- Ask for permission to record the interview.

INTERVIEW QUESTIONS

Interviewer overview [5 minutes]

1. In our interview with you this past fall [or winter], we learned about your site's fall SSA programming. I would like to briefly recap our understanding of those activities. Then, I'll ask you about your institution's SSA activities this past spring and during the current summer. Please interrupt me to fill in details or make corrections.

   Key features to address in this recap:
   - Fall activities or services for *continuing* SSA students (Students who had started with SSA before Fall)
   - Fall activities or services for *new* SSA students [new to SSA program(s)]
   - Successes or challenges from the fall
   - Lessons learned or changes made to activities

   _____
   _____
   _____
   a. Am I missing anything? Or, are there things I need to adjust?

Reflections on Spring 2015 [10 minutes]

2. Let's move on to this past spring. My understanding is that your site was engaged in the following activities as part of SSA this spring (briefly summarize here):

   _____
   _____
   _____
   a. Am I missing anything?
   b. In what ways were your SSA initiatives a success this past spring? How did you know they were successful?
   c. Could you share a story or example of a student experience from the spring that highlights your successes?
   d. What factors facilitated these successes?

3. Last year you reported the following challenges with implementing SSA in the spring:

   _____
   _____
   _____
   a. In what ways were your challenges this spring different, if at all? (Did you face the same challenges again? Have the challenges from last spring been resolved? What new challenges did you face and how did you address them?)

4. What populations did your site focus on for recruiting this year?
    a. Why did your site choose to focus on those populations?
    b. How did your site target recruitment to those populations?
    c. (If not previously covered) Did your site recruit students from populations underrepresented in STEM? If so, which populations did your site target for recruitment, and what strategies did your site use to recruit them?

Summer 2015 activities [10 minutes]

5. Now, let's talk about the summer SSA activities at your site. Here is my current understanding of the SSA activities happening here this summer:

_____
_____
_____
    a. Am I missing anything?

6. Could you describe any notable successes with SSA so far this summer? How do you know these are successes?
    a. Could you share a story or example of a student experience from this summer that highlights your successes?
    b. What factors facilitated these successes?

7. Last year, your site reported the following challenges with SSA implementation during the summer:

_____
_____
    a. In what ways are your challenges this summer different, if at all? (Are you facing the same challenges again? Have challenges from last summer been resolved? What new challenges are you facing and how do you plan to address these challenges?)

General SSA Program Questions [15 minutes]

Now I have some questions related to your SSA program more generally.

8. Last year, I understand that your site [accepted all applicants/selected applicants based on the following criteria:]

_____
_____
    a. How did your site select SSA participants this year from among those who applied?
    b. What do you see as the characteristics of students who are most and least successful in your SSA programs?
    c. Have your site's SSA activities had any unintended positive outcomes or negative consequences for students? Please describe.

9. In what ways and to what extent is your site tracking students (primary participants) who participated in SSA last year (spring, summer or fall)? What do you know about how or what those students are doing?
    a. In what ways and to what extent is your site intentionally or systematically *engaging* these past SSA participants in continued STEM or other academic support activities? Please describe.

10. DHE is particularly interested in knowing how SSA is creating a pipeline to entry into the STEM workforce (in fields such as advanced manufacturing, nursing, IT, etc.) – what can you tell me about how SSA is supporting that pipeline here? How do you know what is working?

11. As you know, sustainability is one of the key focuses of the SSA initiative at this stage. My understanding is that your site is pursuing the following options in the interest of sustainability:

_____
 _____

     a.   What, if anything, has changed in the way your site is thinking about or planning for the sustainability of SSA? Have you made any progress on any of those fronts?

     b.   We have heard from campuses that financial incentives like stipends are important pieces of SSA that will be difficult to sustain. Given this situation, we'd like to know how your institution sees stipends fitting into a broader SSA model that could be sustained beyond the period of grant funding. Are stipends a core part of your program that you will seek external or other funding to maintain? Or, are they not a core element such that you plan to phase out or reduce these incentives when SSA funding ends?

12. We know that there are several other initiatives that overlap with SSA, such as Guided Pathways to Success and the TAACCCT4 grant. Can you tell me about the *relationship* between SSA and these other initiatives at your institution?

Closing Reflections [10 minutes]

13. Now that your site has been running SSA activities for about a year and a half, what elements are emerging as the <u>key</u> or main components of your institution's SSA programs?

     a.   Is there any common experience among the students who participate in the various aspects of your institution's SSA program(s)? Please describe.

     b.   What is the message you share with stakeholders about what SSA *is* at your site?

14. Have you had any interaction(s) with DHE around the work funded by your SSA award? Please describe. How has DHE supported your work? How has this been helpful or not, and what additional help would be useful?

15. [If time] Does your site have measurement priorities or plans beyond what DHE and UMDI are measuring at the initiative level?

     a.   Are there aspects of program implementation are you not formally tracking, but think are important? Which ones?

     b.   If you had to say whether or not SSA was working for any given student, what indicators or outcomes would you look for?

[Only if time] About Observation [5 minutes]

16. *Ask these questions if the interviewee is familiar with the activities (to be) observed during the visit.*

If interview takes place <u>prior to</u> observation:

     Today, we plan to observe SSA in action. What specifically will we be observing?

     a.   To help us understand the program and share its promising practices with DHE and other sites, what do you think are some of the most important things we should be looking for during our observation?

     b.   Are there major components of your SSA program that we will not observe, or that are difficult to observe but important to understand?

If interview takes place <u>after</u> observation and interviewee was present or is familiar with the activity:

     Today, we observed SSA in action here. [*Briefly describe observation*.]

     a.   To help us understand the program and share its promising practices with DHE and other sites, what do you think were some of the most important things we saw during our observation?

     b.   Are there additional major components of your SSA program that we did not observe but that you think are important for us to understand?

Thank you for your time.

SSA Site Visit: Student Interview or Focus Group Questions – Year 2, Summer 2015

Welcome: Thank you for coming to this focus group today. I know you are all busy and your time here is very much appreciated.

Evaluator's Introduction: I work for the UMass Donahue Institute – We are external evaluators who have been hired by the Department of Higher Education to help evaluate the STEM Starter Academy Initiative (which I will refer to as SSA). My goal is to get your feedback on SSA programs.

Explanation of focus group: I would like to hear from as many as you as possible. Don't feel like you have to answer all the questions, but do participate to the extent you are comfortable. It's okay to respond to one another, and it's okay to agree or disagree with one another. It is very likely that you have different experiences. The point here is to get as much of a complete story about SSA – from your unique perspective – as is possible.

Confidentiality: I will include a summary of this discussion in reports I write later this fall and winter. I won't use your names and will not identify you specifically, but I might quote you anonymously. For example, I might write something like, "one student found tutoring to be very helpful. She said, 'sometimes I just need a little bit of help when I'm really stuck. After that, I can usually figure it out.'"

Also, please respect people's privacy once we leave this group. During the group, we may mention faculty and other SSA students by name (their privacy will also be preserved in the report). Our discussion is confidential. Is that clear?

Recording: I will be recording the discussion because it would be impossible for me to accurately write the whole the thing down. I will be transcribing the recording, and one or two of my colleagues will also review the transcript. No other people will hear or see the whole discussion. Does everyone here agree to be recorded?

I will turn on the recorder now and let's start.

I am here with…. This is just a reminder that this conversation is being recorded.

Questions:

1. Let's first go around the room quickly [depending on group size]: tell me if you're participating in a STEM Starter Academy program now or if you have participated in the past, and which programs/activities you participated in.

2. How did you hear about SSA? What are some reasons you decided to participate in SSA?

3. What are the ways that being a part of SSA has helped you this summer?

    a. How do you think your college experience would be different if you had not participated in SSA?

4. What are the best things about the STEM Starter Academy program? Can you give me an example?

5. What do you find the most difficult about the SSA program? Can you give me an example?

6. I'm interested in knowing if participating in SSA changed any of your ideas about STEM:

    a. Did any of you switch into or switch between STEM majors because of SSA? Has being involved with SSA changed your ideas about STEM majors?

    b. Are any of you considering different job or career possibilities than you were before you participated in SSA? Tell me about that.

    c. What about what you'll do when you graduate from here – how has SSA helped you think about what's next?

    d. How has SSA shaped other parts of your college experience?

7. Do people who participate in SSA know each other here? Do you do anything together (e.g., study, have meetings, have classes, etc.)? In what ways is this helpful or not?

8. Some of you might feel that SSA is a good fit for you and some might think it isn't as good a fit – I'm interested in knowing why.

    a. First, for those of you who feel that SSA _is_ a good fit for you – can you tell me why?

    b. For those of you who feel like SSA has _not_ been a good fit for you – can you tell me why?

9. If you were in charge of this program, what would you change about it? Is there some kind of support that would make your experience better?

10. If you were going to tell one of your friends about the STEM Starter Academy program here – how would you describe it?

11. Is there anything else you think we should know about the STEM Starter Academy program here?

STEM Starter Academy – Selected site visits – Year 2

Observation Protocol – Summer 2015

Cover Page – To Be Completed Before Observation

General information:

College _____   Date _____

Activities observed (*more than one might be observed simultaneously*):

☐ STEM credit courses   ☐ Cohort activities   ☐ Internships

☐ Non-credit or student success ☐ Students receiving support   ☐ Online advising or mentoring
  courses   services   systems

☐ Boot camps or prep workshops   ☐ Peer mentoring   ☐ Dual enrollment courses

☐ Interest workshops or activities ☐ Study groups   ☐ Faculty PD/meeting

☐ Self-paced/computer-aided   ☐ Enrichment activities (list) ☐ Other:
  classes   ☐ Research experiences

Pre-Observation Summary

- Brief description of SSA program at this site.

- Specifics related to SSA model elements:

   o Target populations/student selection –
   o Summer bridge program description –
       ▪ Schedule
       ▪ Elements
   o Experiential learning opportunities –
   o Career exploration activities and support –
       ▪ Support for transition to industry/career
   o Support for transition to 4-year colleges –
   o Cohort model? Is there a common experience for SSA students at this institution?
   o Faculty professional development?
   o Academic-year programming and support –
       ▪ STEM-specific intrusive advising
       ▪ STEM tutoring
       ▪ Financial support

- Specific things to look for during the observation:

1

STEM Starter Academy – Selected Site Visits – Year 2
Observation Protocol – Summer 2015

Notes:

- The goals of this observation are to:
    - Develop a deeper understanding of how SSA programs are impacting students
    - Gather the perspectives of campus stakeholders about SSA
    - Collect information about promising programs and practices
    - Capture the character and details of site-specific program implementation in order to offer illustrative examples of the impact of SSA on students in a way that is translatable to external project stakeholders

General

- Briefly summarize the observation in general.
    - What activities were observed (identified on page 1)? For how long was each type of activity observed?
    - What was the purpose of the event being observed?
    - How many people were involved?
        - # of students _____
            - Characteristics (if available) such as grade levels, demographics, etc.?
            - If time allows, ask instructor how many students should have been in attendance.
        - # of staff/administrators _____
            - What were the roles of the staff/administrators observed (e.g. instructor, tutor, advisor, mentor, coach, speaker, administrator, etc.?)
    - In general, what was the level of engagement of the people involved?
    - What was unique and/or particularly interesting about what was observed?
    - What was observed that would be helpful to others who wanted to create a similar program?
    - Did your observations give you any insight into program sustainability? Describe.

Program Dimensions

Describe your observations related to SSA Model elements:

- Target populations/student selection –
- Summer bridge program description –
    - Schedule
    - Elements
- Experiential learning opportunities (including research experiences, experiential curriculum design)
- Career exploration activities and support
    - Support for transition to industry/career
- Support for transition to 4-year colleges
- Cohort model? What is the common experience for SSA students at this institution?

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- o Faculty professional development?
- o Academic-year programming and support
    - ▪ STEM-specific intrusive advising
    - ▪ STEM tutoring
    - ▪ Financial support
    - ▪ Other student support services

Activities and Support

- In what ways does this SSA program provide:

    - o Specific or targeted support for student retention?

    - o A specific or targeted emphasis on college readiness?

    - o A specific or targeted emphasis on STEM career awareness?

    - o A specific or targeted emphasis on options for completion (transfer to 4-year colleges, transfer to career with 2-year degree or certificate)?

- What learning activities are observed?

    - o What pedagogical strategies are used?

    - o Describe participants' engagement in the activities.

    - o Approximately how many students/staff are in attendance?

- What enrichment or retention-related activities are observed?

    - o Describe the activities

    - o Approximately how many students/staff are in attendance?

    - o Describe participants' engagement in the activities.

- What student supports are observed?

    - o Describe the activities

    - o Approximately how many students/staff are in attendance

    - o Describe participants' engagement in the activities

- What other activities are observed?

    - o Describe the activities

    - o Approximately how many students/staff are in attendance

    - o Describe participants' engagement in the activities

- Resources and support

    - o What physical resources are available to students? (e.g., technology, space)

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- o   What student supports (academic, social, emotional, etc.) are available to students?

- Did you observe anything that suggests student/teacher/administrator successes, challenges, desires, etc.?

Follow-up

- Are there specific things you had hoped to observe but didn't have the opportunity?

- Does this observation leave you with follow up questions? If so, list here:

- Based on this observation, are there specific things we should request to observe at a later date?

STEM Starter Academy Summer Program Schedules 2015 (abridged)

Institution	Program Name	Start Date	End Date	Daily Schedule	Description	Intended Audience	Respondent
Berkshire	Math Spring Fling	5/12/2014	6/3/2015	Varies	Twelve hours of on-line math (6 on campus, 6 at home).	Incoming freshman members of SSA who are not college ready in math	Constance West
	BCC STEM 101	8/3/2015	8/7/2015	9 a.m.-3 p.m.	Bridge-to-college activities, industry guest speakers, and college success skills.	All incoming freshman members of SSA class of 2015	
	Math Workshop	8/10/2015	8/14/2015	9 a.m.-3 p.m.	Small group instruction, individualized computer work, and hands-on activities.	Incoming freshman members of SSA who are not college ready in math	
	STEM Explore	8/17/2015	8/20/2015	9 a.m.-3 p.m.	Hands-on STEM activities with college instructors.	All incoming freshman members of SSA class of 2015	
Bristol	BCC - Summer Bridge	6/15/2015	8/22/2015	M-R, 8 a.m.-12 p.m.	Students take three free courses: a college success seminar (CSS101), one math (either dev. math or college algebra), and one science course (either dev. chem or general biology). Program also includes a STEM activities on Thursdays.	Incoming freshman to the college who identified interest in a STEM field or current BCC students in General Studies with an interest in STEM. Can be traditional or non-traditional students.	Meghan Abella-Bowen
	BCC - Learning Communities	6/15/2015	8/22/2015	MW or TR , 4-7 p.m.	Students take two free courses: College Success Seminar (CSS101) & developmental math. Offered at three BCC campuses: Fall River, New Bedford, and Attleboro.	Incoming freshman and current BCC students with an interest in STEM and who need to take a developmental math course to get on track	
	BCC - STEM Boot Camp	8/24/2015	8/28/2015	M-F, 8:30 a.m.-4:30 p.m.	Daily, hands-on STEM workshops led by BCC Faculty. Proposed program includes med tech, biotech, environmental and marine tech, electrical engineering, mechanical engineering, and computer information systems.	Incoming students (with a focus on General Studies students)	
Bunker Hill	STEM Starter Academy	6/1/2015	7/23/2015	M-R, 9 a.m.-11:30 or 12 p.m.	Students take one of two free developmental math clusters (097/099 and 099/194).	Current BHCC students who placed into developmental math	Joye Thaller
		8/31/2015	9/2/2015	9 a.m.-2:30 p.m.	Special workshops on engineering and biotechnology.	Current BHCC students who participated in SSA math clusters	
Cape Cod	Summer of STEM Scholarship	5/26/2015	8/27/2015	Daily schedules depend on course program and current progress .	Students currently enrolled in a STEM program receive a scholarship for a mathematics or science course in their program. All students participate in one STEM workshop to support study skills, career decision making , and community building (either Aug 10 or 11, 2:30 to 4:30 p.m.).	Current community college STEM students	Jill Neumayer DePiper
	Summer Bridge	7/9/2015	8/27/2015	Daily schedules depend on math placement.	Students interested in a STEM program can receive a scholarship for a mathematics course in their program, as determined by a placement exam. Students must also participate in two STEM workshop meetings with other STEM students to support study skills, career decision making, and community building. (The first two will be offered Aug 10 and 11, 2:30 to 4:30 pm and two more will be scheduled to align with students coursework.)	Incoming STEM students, specifically students who have just graduated high school and who are beginning a STEM program at CCCC.	
Greenfield	STEM Starter Academy	7/14/2015		10 a.m.-1 p.m.	Orientation	Students who are new to college, mostly current high school students or recent graduates	Amanda Hyde
		7/15/2015	9/1/2015	T-Th, 5-8:25 p.m.	BIO 126 - Biology I		
		7/15/2015	9/1/2015	M-W, 9 a.m.-12:25 p.m.	BIO 104 - Natural History		
		7/15/2015	9/1/2015	M-R, 8-10:30 a.m.	SCI 141 - Cosmic Life Becomes You: Scientific Literacy for Today		
		7/15/2015	9/1/2015	TR, 9 a.m.-12 p.m.	MAT 095 - Introductory Algebra		
		7/15/2015	9/1/2015	M-R, 9-11 a.m.	MAT 096 - Intermediate Algebra		
		7/15/2015	9/1/2015	M-R, 1:30-3:30 p.m.	MAT 107 - College Algebra		
		7/15/2015	9/1/2015	TW, 9-11 a.m.	MAT 108 - Precalculus		
		TBD		12-1 p.m.	Summer workshop - Active reading and study strategies		
		TBD		12-1 p.m.	Summer workshop - Strategies for successful testing		
		TBD		12-1 p.m.	Summer workshop - Strategies for successful testing		
		TBD		12-1 p.m.	Summer workshop - Pursuing STEM careers I		
		TBD		12-1 p.m.	Summer workshop - Pursuing STEM careers II		
		TBD		12-1 p.m.	Summer workshop - Early Entrant Program & portability of GCC credits		
		TBD		12-1 p.m.	Weekly academic advising appointments		
Holyoke	STEM Starter Academy	7/6/2015	8/5/2015	M-W 8:30 a.m.-12 p.m. R 8:30 a.m.-1:30 p.m.	STEM Foundations - 4 credit lab science course; extended activities on Thursdays.	Recent high school graduates entering HCC in Fall 15; adult learners transitioning from ABE/TCC; some current community college students	Michele Snizek
	Pre-STEM Summer Class	7/7/2015	8/13/2015	Day: T-R, 9:15 a.m.-12:15 p.m. Eve: T-R, 5:30-8:30 p.m.	Pre-STEM summer Transition to College and Careers course.	Adult learners transitioning from Adult Basic Education (ABE) programs to Transition to College and Career (TCC) programs	Marie Troppe
	STEM Starter Academy	6/10/2015	7/11/2015	M-F 8:30 a.m.-2 p.m.	Morning math class, mid-day STEM enrichment & career coaching, afternoon math self-study time with tutor in math lab. Field trips on Friday.	Incoming Massasoit students who have applied and been accepted into the STEM Starter Academy	

STEM Starter Academy Summer Program Schedules 2015 (abridged)

Institution	Program Name	Start Date	End Date	Daily Schedule	Description	Intended Audience	Respondent
Massasoit							Michael Bankson
	STEM Research Internships	5/26/2015	8/31/2015	M-F 9 a.m.- 4 p.m.	Interns work up to six hours per day, depending on the research project schedule. These students have applied and been accepted as paid interns.	Current CC STEM students, including but not limited to previous STEM Starter Academy students	
MassBay	High School Summer Bridge College-Credit Classes	7/6/2015	7/17/2015	M-F 9 a.m.-3:30 p.m.	Transferable college credit Engineering Design course where students use SolidWorks 3D engineering design software to create a model and then see it come to life using 3D printing technology . Transferable college credit Digital Imaging course where students experiment with image creation and digital imaging technologies.	High school rising juniors and seniors and recently graduated seniors	Valerie Kapilow
	High School Summer Bridge Workshops	7/6/2015	7/17/2015	M-F 9 a.m.-3:30 p.m.	Four, 2.5-day workshops, including "Artbotics", "Coding with Scratch", "Mobile Apps with App Inventor", and "Coding with Raspberry Pi."	High school freshman, sophomores, juniors, seniors, and recently graduated seniors	
	Tour of MassBay Wellesley College Campus	7/7/2015		12:30 - 1:30 p.m.	For high school summer bridge students: Tour of the MassBay Wellesley Campus (including the Engineering, Biotech, Computer Science laboratories) by admissions staff.		
	Engineering Design Presentations	7/6/2015		12:30 - 1:30 p.m.	For high school summer bridge students: Demonstration/exhibition of work by MassBay summer Engineering Design course students.	High school freshman, sophomores, juniors, seniors, and recently graduated seniors; current community college students	
	MetroWest College Planning Center presentation	TBD 7/6-7/17/2015		12:30 - 1:30 p.m.	For high school summer bridge students: Director of MetroWest College Planning Center will introduce students to the new center, its services and resources.	High school freshman, sophomores, juniors, seniors, and recently graduated seniors	
	STEM Speakers	TBD 7/6-7/17/2015		12:30 - 1:30 p.m.	For high school summer bridge students: Invited speakers from industry (Engineering or Computer Science professionals) will speak about their career field, the projects on which they work, skills they use and related job opportunities for those with Associate Degrees.		
	STEM Division and STEM Career Information Session	7/8/2015		12:30-1:15 p.m.	Presentation on STEM Division programs and STEM Careers delivered by SSA Implementation Coordinator.		
	Strategies for Academic Success	7/15/2015		12:30 - 1:30 p.m.	Presentation on "Strategies for Academic Success" including study, test-taking and time-management skills delivered by Academic Achievement Center staff member.		
	Newton STEAM Expo	7/18/2015		1-4 p.m.	Two to four MassBay STEM students (in Engineering and Biotech) will be demonstrating their projects, research, and designs.	Broad community audience including elementary, middle, and high school students; recently graduated high school seniors; parents; adult learners; and current community college students	
	Framingham High School Web Design Presentation	6/1/2015		10:30 - 11:30 a.m.	MassBay web design students will present to Framingham High School students taking web design classes. Presentation will focus on MassBay coursework, internships, and career options related to web design and will include students' own work.	High school freshman, sophomores, juniors, and seniors	
	STEM division and STEM Career Information Session	6/25/2015, 7/23/2015		10:30- 11 a.m.	Presentation on STEM-division programs and STEM careers delivered by SSA Implementation Coordinator. Targeted to MassBay math students in MA 90 , 95 ,98 and Math 1-2-3 self-paced classes as well as pre-calculus, college algebra and calculus I students.	Community college students	
	STEM Mentor Program Student Meetings	ongoing throughout summer sessions I, II, III		Varies	Individual and small group meetings with students taking summer-term STEM classes to discuss the STEM Mentor Program, specifically the benefits to and expectations of mentees and the responsibilities and commitments required of participants.		
	STEM Starter Academy Bridge, Session I	7/27/2015	8/7/2015	M-F, 9 a.m.-1 p.m.	A free, two-week program exploring health & STEM fields. Students learn lab skills, develop critical thinking and college success skills, become familiar with MCC and its resources, connect with peer mentors, and gain insight into successful career outcomes.	Majority of summer program participants will be new MCC students and current MCC students (with fewer than 24 credits). They can also be dual-enrolled high school students or adult learners.	
	STEM Starter Academy Bridge, Session II	8/10/2015	8/21/2015	M-F, 9 a.m.-1 p.m.			
	STEM Starter Academy Math Booster	6/8/2015	6/30/2015	M-R, 10 a.m.-1 p.m.	Self-paced, intensive, free math program. Students, placed by diagnostic exam, are supported by a MCC math faculty member and two peer tutors throughout the process.		

STEM Starter Academy Summer Program Schedules 2015 (abridged)

Institution	Program Name	Start Date	End Date	Daily Schedule	Description	Intended Audience	Respondent
Middlesex	STEM Starter Academy Alternative Math Booster Route	6/8/2015	6/27/2015	Sa, 8-10 a.m.	Same as regular Math Booster but specifically designed for students who have full-time, weekday jobs. After a diagnostic exam, students are required to complete at least 30 hours in the software program (on their own schedule) as well as attend all three 2-hour Saturday classes. In class, students receive support from a MCC math faculty member and a peer tutor. The faculty member checks student progress on a weekly basis.	New and/or current MCC students who have full-time weekday working schedules.	Joyce Wang
	Peer Achievement Mentor Program	7/27/2015	8/7/2015	M-F, 9 a.m.-1 p.m.	STEM & health students are matched with Peer Achievement Mentors who are successful MCC students. Mentees of the program will gain a sense of belonging at MCC and have additional academic and social support through their mentors.	Summer bridge participants & current MCC students	
	TEAS Prep Workshops	6/1/2015	8/31/2015	Various days & times throughout summer	Academic support for the TEAS test and tutoring for various STEM & health classes during the Summer sessions. Provided in collaboration with the Academic Center for Enrichment.	Current MCC students	
	STEM & Health Tutoring	6/1/2015	8/31/2015				
	STEM & Health Summer Internships & REUs	6/1/2015	8/15/2015	25 hours/week	STEM & health students participate in innovative research at 4-year universities, build laboratory skills, and gain practical experience in the field.		
Mt. Wachusett	STEM Starter Academy	7/7/2015	8/20/2015	M-F, 9 a.m.-3 p.m.	Students take one or two free courses (MAT 096, MAT 162,BIO 113, BIO 199, CIS 127 and/or PSY 105); participate in STEM-industry field trips, spatial reasoning workshops, tutoring, and MWCC's Leadership Academy; and receive a stipend.	High school graduates matriculating at MWCC in Fall 2015 & current MWCC STEM majors	Christine Davis
North Shore	STEM Starter Academy: Dual Enrollment	7/6/2015	7/31/2015	TR, 9:30 a.m.-12:30 p.m.	EGS 101 - Intro to Engineering	Current high school students	Laura Rubin & Fred Miranda
		5/18/2015	6/26/2015	TR, 6-9:35 p.m.	BIO 108 - Body Health and Disease	High school & current community college students	
		7/6/2015	8/14/2015	MW, 9 a.m.- 12:20 p.m.	CPS 100 - Information Technology and Application	High school & current community college students	
		7/6/2015	8/14/2015	TR, 6-9:20 p.m.	MAT 151 - Precalculus I	High school & current community college students	
		7/6/2015	8/14/2015	T-R, 5:45-10 p.m.	BIO 104 - Anatomy and Physiology 2	High school & current community college students	
	STEM Career Days	6/2/2015, 6/4/2015		8:30 a.m.- 12 p.m.	Industry representatives from GE, Varian, Mblast, NASA, Fitbit, Cell Signaling come to campus to speak to students about STEM.	Current high school students	
	Orientation with the Dean	TBD-August			Orientations for STEM students coming into fall STEM programs. Meeting peer mentors, connecting with faculty and program administrators.	Incoming North Shore students	
	Math Bootcamp (potential)	TBD					
Northern Essex	Tutoring Center	5/13/2015	8/6/2015	Varies	STEM-subject academic support via scheduled walk-in tutoring.	Current community college students	Sharon McDermot
	App Inventor	6/9/2011	6/11/2015	9 a.m.-1 p.m.	A workshop using the AppInventor program, which allows students to create their own apps on Android phones. Macs will be used as routers.	Current Computer Information Systems students	
		6/15/2015	6/17/2015	9 a.m.-1 p.m.			
		6/22/2015	6/24/2015	9 a.m.-1 p.m.			
	Summer Calculus Boot Camp	6/15/2015	6/19/2015	9:15 a.m.-12:45 p.m.	STEM students will learn, practice, and argue the mathematical concepts in Calculus I & II.	Students coming from MAT140, MAT145 or those who have had challenges in Calculus I or II	
	STEM at NECC	8/10/2015	8/10/2015	9 a.m.-1 p.m.	Current lab sciences students will be available to speak to STEM-interested incoming students about available careers.	Incoming students with a STEM interest	
	Peer Mentoring	5/13/2015	8/6/2015	Varies	STEM program students will meet with peers to ensure retention in STEM classes.	Current STEM program students	
Quinsigamond	STEAM AHEAD Summer Bridge-Main Campus	6/15/2015	6/26/2015	8:30 a.m.-3/4 p.m.	Pre-orientation program offering a variety of STEM non-credit classes and workshops, corporate site visits, a math boot camp, a study skills workshop, arts, writing, etc.	Accepted Fall 2015 QCC students (primarily high school graduates)	Darcy Carlson, Kathy Rentsch, Leslie Horton
	STEAM AHEAD Summer Bridge-Southbridge Campus	8/10/2015	8/21/2015	8:30 a.m.-3 p.m. (five days); 8:30 a.m.-12 p.m. (five days)			
Roxbury	Summer STEM Academy	7/6/2015	8/7/2015	M-F, 8 a.m.-5 p.m.	Participation in RoxMAPP (Roxbury Massachusetts Academic Polytech Pathway): Biology (Mon), Chemistry (Tue), Math (Wed), Phys (Thur), Field Trips (Fri)	High school students	Cecile Regner
	Math Boot Camp	7/6/2015	8/7/2015	M-F, 8 a.m.-5 p.m.	Intensive preparation in mathematics to improve Accuplacer scores.	Adult learners, current RCC students	
Springfield Technical	STEM Starter Academy	6/29/2015	8/7/2015	M-F, 8 a.m.-3:30 p.m.	Students will take two credit-bearing courses, one math and one college success seminar. They will also participate in a non-credit "STEM Rotations" seminar with lectures and hands-on activities led by STEM professors. Students will have access to tutor-run study halls and coaching. Each Friday, there will be a series of activities, including speakers and field trips. There will be end-of-summer student presentations and a closing ceremony.	Recently graduated high school students/newly accepted first-year community college students	Felicia Griffin-Fennell, Ph.D.

Summer 2015 Site Visit Summary

UMDI evaluators visited 5 of the 15 STEM Starter Academy sites in July and August 2015: Cape Cod, Mount Wachusett, Northern Essex, North Shore, and Roxbury Community Colleges. The summer site visits differed from the fall 2014 visits in that they covered a considerably longer time span. While the fall visits reflected SSA programming in the summer and fall of 2014, the summer 2015 visits examined SSA programming over the course of fall 2014, spring 2015, and summer 2015. This section summarizes data collected during four of those five visits and is organized to reflect the structure of the current SSA Model, which focuses on two goal areas: (1) recruitment and readiness, and (2) retention and completion.[1] Detailed summaries of each of the five sites, including student feedback, are in the next section of this appendix. For a complete description of site selection methods and data collection and analysis procedures, please see the Methods section of this report.

Overview

With the exception of Roxbury Community College, Year 2 programming at SSA sites demonstrated dual focuses on the recruitment and readiness of high school and/or incoming students, and the retention and completion of current community college students. Roxbury concentrated on its summer STEM camp which targeted 9th- and 10th-grade students. Administrators at all five institutions were positive about the overall trajectory of their SSA programming and identified standout accomplishments from the past year. Cape Cod administrators highlighted their intensive advising strategies—where contact with students was frequent and sustained— their strong industry connections, and their dedication to developing engaging STEM curriculum. Mount Wachusett highlighted the benefits of the strong cohort model of its Summer Academy, where incoming students share many of the same experiences—including field trips, speakers, workshops, a community service project, and sometimes courses—and thus build peer relationships, supports, and networks. Northern Essex and North Shore each emphasized the Year 2 expansion of their academic supports, which included tutoring, peer mentoring, and supplemental instruction. Roxbury highlighted the experiential nature of its summer STEM camp for younger high school students, which included lab-intensive classes in multiple STEM disciplines, several field trips, and team-based classroom projects such as a robotics competition. Program models continued to vary substantially across sites. The following section, however, identifies SSA activities among the five sites that were similar in spirit, intent, or design and highlights examples of these common program components.

Recruitment and readiness

High school student outreach and recruitment. Every site engaged in outreach and/or STEM awareness activities with local high school students. Some of these activities were designed to directly recruit high school students into specific SSA programs (e.g. Summer Academy, dual enrollment). Others were designed to more broadly promote awareness of STEM majors and careers and to communicate the advantages of community college education.

Highlights

- Cape Cod is actively building relationships with local high schools, using its local STEM network to bring K-12 educators together around STEM curriculum development while also

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[1] Data collected during UMDI's site visit to Cape Cod Community College are not included in this analysis because the visit occurred close to the date of this report. Data from all site visits will be included in the Year 2 Annual Report.

promoting to educators the role of the community college as the "focal point" for STEM on the Cape. CCCC also hosted several STEM-career focused events for high school students.

- Mount Wachusett's STEM Awareness Day targeted high school seniors—as well as current MWCC general studies students—who had demonstrated an interest in STEM careers and majors. The event included STEM-career-centered presentations and a workshop addressing financial literacy and financial aid.
- Northern Essex implemented two SSA components designed to introduce local high schoolers to the college and STEM. The college offered an after-school program twice per week throughout the academic year for underserved local high school students that focused on technology-related activities. Northern Essex also held college-for-a-day events where high school students visited the college to tour the campus, observed STEM class lectures, spoke with current students and admissions staff, and sometimes engaged in course activities.
- North Shore offered STEM Career Days where industry professionals gave presentations about their businesses and their experiences in STEM fields to area high school students and some current college students.
- In Year 2, Roxbury expanded the target population for its Summer STEM Camp beyond its partnership with one local high school and aggressively recruited students from underrepresented populations throughout the Boston and Metrowest areas through direct contact with parents, churches, and other community institutions.

College and STEM readiness programming for high school students. In addition to general awareness and outreach activities, each site also implemented no-cost programming designed to prepare high school students for college, STEM majors, and STEM careers. These SSA program components varied in duration and intensity, and were offered at different points throughout the year. In addition to preparing students for college-level work, most components were also designed to give students the opportunity to become familiar with campus, classrooms, faculty, staff, and available academic supports at the colleges.

Highlights

- At Cape Cod, high school students were invited to campus for half-day activities to introduce the college, SSA, and STEM fields and careers. Activities included hands-on STEM demonstrations (e.g., 3D printing) led by faculty, an introduction to SSA and STEM at CCCC by the STEM advisor, and a discussion of potential STEM careers. High school students were also invited to campus for the career round table events, described below.
- Mount Wachusett partnered with four area high schools to implement its Math Modeling program, where high school teachers use MWCC-developed developmental mathematics curriculum to get high school students ready for college mathematics. As part of the program, Mount Wachusett provides a dedicated mathematics professor who offers regular check-ins and as-needed assistance to high school instructors implementing the curriculum.
- Northern Essex offered a spring-semester bridge program for local high school seniors who had expressed great interest in STEM majors and careers, planned to attend community college in the fall, and who had underperformed on academic assessments. Participants received a college orientation, which included a visit to the campus, and took developmental coursework in mathematics and reading.
- North Shore developed its dual-enrollment program which enables local high school students to take free college STEM courses on campus during the fall, spring, and summer semesters. After attending a mandatory orientation, dual-enrollment students receive free textbooks and are supported through tutoring and peer mentors.
- Roxbury held a free summer STEM camp for over 70 younger high school students. The camp included non-credit courses in six STEM subjects taught in the college's labs and

classrooms, as well as several field trips. The camp was designed to familiarize students with college-level academic expectations and with a variety of STEM fields and career pathways. Participants were also paid a modest stipend.

Retention and completion

Scholarships and other financial assistance. Administrators at the five sites stressed the importance of making community college education affordable and therefore accessible. Three of the sites used SSA funds to establish scholarships to help students pay for their classes and thus progress toward completing their degrees. Notably, Northern Essex also developed a lending library where students can obtain textbooks and access codes they could not otherwise afford.

Highlights

- In addition to its lending library, Northern Essex also offered STEM retention scholarships to currently enrolled students that can help cover the costs of tuition, fees, books, and supplies that exceed students' "free aid," such as Pell grants. These scholarships are awarded based on flexible need and merit criteria that focus on students' demonstrated interest in STEM, academic promise, and the potential risk of the student dropping out if financial support is not provided.
- North Shore developed a competitive SSA scholarship program offered in the spring and summer semesters that targets students who are already signed up for nine credits in a semester and who want to add another four-credit STEM class to their course load.
- While Mount Wachusett did not use SSA money to fund a scholarship, the SSA recruiter, faculty, and administrators supported and encouraged participants in the college's STEM Starter Summer Academy to apply for an NSF-funded scholarship once they matriculate in the fall semester. Notably, even before the academy students are fully matriculated, Mount Wachusett endeavors to make college as affordable as possible by providing the credit-bearing summer academy courses at no-cost and offering a sizable stipend.
- Cape Cod offered scholarships to current STEM students to encourage them to complete a greater number of credits per year. All scholarship recipients were required to participate in STEM advising. Students who received scholarships over the summer were required to attend one of the three workshops offered to summer bridge students.

Tutoring, mentoring, and other academic support. Three of the five sites—Cape Cod, Northern Essex and North Shore—made substantial expansions of their tutoring, peer mentoring, supplemental instruction, and other academic supports. Mount Wachusett incorporated more informal academic support and mentorship elements in their summer program components.

Highlights

- In Year 2, Northern Essex increased the number of STEM courses with supplemental instruction, added tutoring hours, and introduced targeted support for health professions students. Notably, the expanded supplemental instruction was implemented in classes that usually draw the most STEM majors.
- North Shore developed an extensive peer mentoring program. Peer mentors are assigned to a particular STEM program and group of students who they keep in touch with regularly and provide individualized support. Peer mentors provide general assistance in navigating academic issues as well as tutoring support. In Year 2, the college increased the overall amount of STEM peer and professional tutoring in its Lynn and Danvers

tutoring centers. Of note, an SSA coordinator also provides considerable support to current college and dual-enrolled STEM students, for instance by overseeing the peer mentors and the college's STEM club.

- Increasing peer tutoring and supplemental instruction is a major focus of SSA administrators at Cape Cod, who feel that a lack of social connection common among community college students impedes students' academic progress. According to administrators, students who serve as SIs develop a sense of community with their peers that keeps students engaged with the college and with their academic program.

Mount Wachusett does not offer formal academic-year supports to Summer Academy students who matriculate at the college. However, the academy is specifically designed to encourage students to form strong academic habits, such as seeking out tutoring and advising services. The academy also intentionally builds participant-faculty relationships and peer-to-peer supports which can be leveraged during the academic year.

Summer 2015 Site Visit "Snapshots"

Cape Cod Community College (CCCC)

The SSA program at CCCC shares a director with the Cape Cod Regional STEM Network and is overseen by the Dean of Science, Technology, Math, and Business. SSA also supports a STEM advisor and STEM career counselor, both of whom have offices in a centralized space near the program director. These positions reflect the site's goals of more timely program completion and increased career awareness. CCCC's summer bridge program offers scholarships and stipends to STEM students who complete the next math course in their sequence and participate in a series of workshops focused on college and career readiness. Students are also supported in seeking industry internships. During the academic year, CCCC focuses its SSA supports on retention, offering intensive academic and career advising; facilitating curriculum revision; providing scholarships, supplemental instruction, STEM career awareness and networking events; and supporting a STEM-themed student club.

Year 1 Review

Recruitment and readiness components

- Summer bridge program – Incoming community college students in STEM fields were offered a free summer math class based on individual placement (including the opportunity to take an online developmental math course). Students received tutoring and advising support and $1000 stipends for completing. All financial support was contingent on fall enrollment in at least 9 credits.

- Building connections with local high schools – In partnership with the Regional STEM Network, SSA supported STEM curriculum and resource sharing between local high schools and curricular alignment between K-12 and CCCC. SSA also supported infrastructure investments that allow community college faculty to run digital courses for high school students in the region.

Retention and completion components

- Building relationships with local industry – SSA personnel have been actively building relationships with local industry. Program elements have been tied to local industry needs (e.g., teaching students to work with Underwater Autonomous Vehicles), hiring has focused on faculty with industry expertise, and local industries are invited to collaborate on new programs and curriculum.

- 4C STEM student club – Student-driven agenda supports students in building connections with peers, gaining leadership skills, and preparing for STEM careers. CCCC students run STEM workshops for middle school students, write grants, enter STEM competitions, and learn about STEM career opportunities and job soft skills.

- Academic and financial support – Through SSA, CCCC supported additional peer, group, and professional tutoring and supplemental instructors in introductory courses. STEM students were also offered scholarships to increase the number of courses they could complete in a year

- Career exploration events for current community college students – Students were invited to engage with local industry professionals at various events.

Year 2

In Year 2, Cape Cod Community College continued its work through SSA to support students in program completion and career exploration. The campus used SSA funds to support the hire of a full-time STEM academic advisor who recruited at local high schools; facilitated the student STEM club; and designed and taught workshops on college success, career exploration, and professionalization for summer bridge and other SSA students. The SSA director—who has a background in teacher professional development and mathematics and science education—facilitated curriculum revision workshops for college and K-12 faculty focused on incorporating activity-based learning. SSA staff and faculty solicited internship opportunities for students, alerted students to available opportunities, and supported students in the application process. In Year 2, CCCC continued to offer STEM-specific tutoring and supplemental instruction, scholarships, and career engagement events.

> *I was going to have to take [these math courses] in the fall, so it was really helpful to do it over the summer. It also gave me a good starting point for [community college]. It was a great help. Because of that, I also got to take higher level math courses these last two semesters, and basically got of my math out of the way and don't have as heavy a load for next semester.*
> *Summer Bridge Participant*

Recruitment and readiness components

Summer bridge program – The summer bridge program in Year 2 was similar to that offered in Year 1 with a few modifications. As in Year 1, incoming students were offered a free math class based on individual placement, including developmental math (however, there was not an online course option in Year 2). Summer bridge students were supported with advising and career counseling and course textbooks were provided. The stipend in Year 2 was reduced from $1000 to $500. In order to keep the stipend and tuition waiver, summer bridge students were required to matriculate at CCCC in the fall and enroll for at least 9 credits.

In Year 2, students who participated in the summer bridge were also required to attend three two-hour workshop sessions near the end of the summer that were facilitated by the STEM advisor. Workshop topics included various college readiness skills, career exploration and awareness activities (including activities focused on self-knowledge and awareness), and professionalization skills (e.g., email communication).

Evaluators observed one of these workshops during a summer 2015 site visit. During our observation, the STEM advisor—an engaging and energetic presenter—was leading a group of 10 students through a variety of activities including designing an "elevator speech," taking a campus resource "quiz," and discussing email etiquette. Throughout these activities, the STEM advisor created a collaborative atmosphere – presenting information in a casual way and engaging students in sharing information with

their peers. This created a space for students to ask questions without fear of judgement and for the STEM advisor to discuss related issues such as cheating, how to make an appointment in the online advising system, and the difference between an official and unofficial transcript. Students seemed to respond well to this atmosphere and appeared engaged. Throughout the workshop, the STEM advisor reiterated that students could come to her if they weren't sure where to go, saying, "Come talk to me even if you're not sure if it's a STEM or a science question. I can help you find the right person." In a focus group, students commented that this kind of open willingness to help encouraged them to seek out STEM program staff for program and career advice.

Ongoing relationship building with local high schools – Through the Cape Cod Regional STEM network, CCCC is bringing K-12 educators together around STEM curriculum development, enhancing education along the STEM pipeline while also promoting the role of the community college as the "focal point" for STEM on the Cape. CCCC administrators hope that promoting this belief among high school faculty and administration will lead to greater recruitment because, as one administrator said, "students are going to believe it from their teachers before they believe it from me."

> [STEM advising] "helped me realize how to better shape my [path] … I was interested in engineering, I was interested in computer science, I was interested in mathematics, I just didn't have a direction with it… [but] I didn't take as many math or science courses my first semester because… I had too much freedom and didn't realize really where I was going until I talked with the STEM Network here."
> *SSA Scholarship Recipient*

High school student recruitment and engagement – High school students were invited to campus for half-day activities to introduce the college, SSA, and STEM fields and careers. Activities included hands-on STEM demonstrations (e.g., 3D printing) led by faculty, an introduction to SSA and STEM at CCCC by the STEM advisor, and a discussion of potential STEM careers. High school students were also invited to campus for the career round table events, described in the next section.

Retention and completion components

New advising model – With support from SSA, CCCC hired a dedicated STEM advisor who works intensively with students to support them in making academic program choices, accelerating their time to completion through increased course load (often supported by SSA scholarships), and exploring career possibilities through internships and other career forums. The STEM academic advisor works closely with the SSA director and a STEM career counselor to advise and support students. All three staff maintain relationships with STEM students through frequent contact. As the SSA director said, "advising is a daily event. It's not [only when students] come in to register…."

Students commented that they felt well supported through this advising model. One student appreciated the SSA staff's "energy and enthusiasm" in "looking for the success of the students." Another said, "I am a whole lot more confident in [transferring] now that I would have been without them. They just made me feel like I am important." One student particularly appreciated the STEM advisor's scientific background, saying "having her as a scientist – I could really relate to her and could really believe the advice she was giving me."

Industry and transfer relationships – SSA funds have been used to build relationships with local industries and partner transfer schools, including program- and institution-specific articulation agreements, internships, and collaborative curriculum design. These partners have also collaborated with CCCC in the development of a new engineering program.

Curriculum development – In Year 2, CCCC continued to support curriculum development in STEM fields through SSA, offering stipends and workshops to faculty to build inquiry-based learning

pedagogies into gateway courses. This curriculum development work aligns with ongoing efforts by the institutional research and assessment office at the college, which has been supporting faculty in developing connections between course objectives and assessment outcomes.

Tutoring and supplemental instruction – Through SSA, CCCC increased tutoring and supplemental instruction in Year 2. Anecdotally, administrators note improved success rates in courses with these academic supports, but particularly highlight the impact on the Supplemental Instructors (SIs), themselves. According to administrators, students who serve as SIs develop a sense of community with their peers that keeps students engaged with the college and with their academic program. This kind of engagement is a major focus of SSA administrators at CCCC, who feel that a lack of social connection common among community college students impedes students' academic progress.

> *"[The internship] was helpful; I talked to about three different people in lab about how they got into science and how their career path has gone. I don't know anything about how the biology and STEM will work out. Do I just take biology and then I just go straight into work? They gave me a lot of good practical advice about how to go about things over the next year or two."*
> *STEM Internship Participant*

Career and transfer exploration activities – Activities that raise students' awareness of STEM career options and pathways to those careers (often via a transfer to a 4-year school) are central to the SSA program at CCCC. SSA staff coordinate with the campus career office to solicit and secure internships for students while advisors support and encourage students with their applications and preparation for interviews. SSA funding is used to pay students a stipend if the internship is unpaid, or pay for academic credit tied to the internship.

SSA administrators noted the success of the STEM Career Round Tables as a career exploration activity. In the fall and spring semester, community college and high school students are invited to the events where seven or eight STEM professionals briefly introduce themselves and then sit at tables and talk with a group of students for 20 minutes before "rotating." The goal is to expose students to different potential STEM careers, but also to different types of people in those careers. As one administrator said, "those are great people for students to sit around with. They are professionals…and they are doing cool stuff and they are just regular guys." Feedback about the events has been very positive, according to administrators.

STEM scholarships – CCCC continued to provide scholarships to current STEM students through SSA in Year 2, encouraging students to complete a greater number of credits per year. All scholarship recipients were required to participate in STEM advising. Students who received scholarships over the summer were required to attend one of the three workshops offered to summer bridge students.

Year 3 Plans

During the site visit, administrators at CCCC outlined the major focuses of their Year 3 SSA plans: ongoing intensive advising, expanded supplemental academic support for gateway STEM courses, continued curriculum revision, and increased community engagement. SSA administrators hoped to train and stipend faculty to be more effective academic advisors for students who have more than 30 credits. They also planned to train more supplemental instructors for core courses and noted that supplemental instruction and curriculum revision were tightly linked. Supplemental instructors are more effective in courses where faculty are "not just lecturing," one administrator said, so "in order to have an SI, you need to have faculty rework their courses." Finally SSA administrators planned to

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> *SSA Scholarship Recipient*

continue to build relationships with the local community in order to facilitate better linkages for students to local industries and also to better recruit students into their SSA programs.

Northern Essex Community College (NECC)

The SSA program at NECC is organized by a committee of various faculty and staff including representatives from the admissions office, academic resources and tutoring, and STEM faculty. This committee is overseen by the director of Academic Affairs operations. Students who are affected by the SSA are not required to participate in all or multiple aspects of the program—although in some cases students take part in more than one of its components. In Year 2, NECC administrators decided to target underrepresented students with greater intentionality by focusing its second year SSA funds on STEM students attending the Lawrence campus, which is a federally designated Hispanic Serving Institution.

Year 1 Review

In Year 1, the focus of SSA activities was retention and support of current STEM major students, and engagement and recruitment of high school students.

Recruitment and readiness components

- Five-week summer "STEM prep" bridge program focused on lab science and college success skills (targeting incoming students and current NECC students in developmental courses).

- Mathematics curriculum alignment – a collaboration with between area high schools, GEAR UP, and NECC faculty to align developmental and college-level mathematics with the MA Mathematics Curriculum Frameworks.

- High school STEM engagement, recruitment, and college prep activities (college-for-a-day sessions, afterschool programming, STEM college-prep workshops for 9th- and 10th-grade students, and STEM-oriented recruitment open houses).

Retention and completion components

- Technology infrastructure upgrades including the purchase of a digital radiography system to replace outdated x-ray equipment as well as the construction of a modular mathematics lab to assist college students' transition from developmental to college-level mathematics.

- Supplemental instruction and tutoring in STEM fields.

- Textbook lending library.

Year 2 Description

In Year 2, NECC continued to use SSA funds to support a range of activities that affected current NECC students and area high school students. As previously noted, NECC shifted focus toward its growing Lawrence campus. NECC continued to fund supports for current students including increased STEM tutoring hours, expanded supplemental instruction, a textbook lending library, and additional technology infrastructure upgrades. NECC also continued its outreach and engagement with high schools and high school students with STEM engagement and college readiness activities. In summer 2015, due to 9c budget cuts, the college did not offer the multi-week "STEM prep" summer bridge. Instead, NECC

offered to current students a series of four-day "App Inventor" workshops and a Calculus I and II boot camp. New elements in Year 2 included a peer mentor program and STEM retention scholarships.

Recruitment and readiness components

High school engagement activities. In Year 2, NECC continued to offer a variety of activities designed to engage high school students in STEM and build a connection with NECC. These included a STEM-focused afterschool program, college-for-a-day sessions at the NECC campuses, and a spring 2015 bridge program for a targeted group of Lawrence High School seniors. An administrator explained that high school engagement is important because students who choose to go to community college after high school typically have greater financial need, face "harder challenges," and are often first-generation college students who do not have a clear idea of what college is like. According to an NECC administrator "you have to make it a reality for them."

> *Afterschool program.* The afterschool program consisted of technology-focused engagement activities designed to introduce underserved high school students to the college and to STEM. Open to 9th- through 12th-grade students from Lawrence High School, the free program ran twice a week on NECC's Lawrence campus throughout the school year. One activity involved drawing shapes by programing a robotic car that had a pen attached to it.

> *SSA bridge program.* In partnership with Lawrence High School and GEAR UP, NECC offered a bridge program to Lawrence International High School seniors in the spring (Feb – May 2015). To be selected, students had to express a high level of interest in STEM majors and careers, plan to attend community college in fall 2015, and be underperforming on STEM academic assessments. Thirteen students participated and were offered developmental coursework in mathematics and reading and an orientation to college, including a visit to the NECC campus. Classes were held during the school day on the high school campus.

> *"College for a Day" activities.* These activities were designed to help high school students who might not otherwise be considering college see NECC as a realistic path. Students were invited to STEM classes to watch lectures and sometimes engage in hands-on course activities. They spoke with current students and admissions staff, and took a campus tour. An administrator explained that these activities help students mentally and academically prepare for college, saying "I think once you've shown that [college] is not different, that it is just another step, I think it is a lot easier for the transition."

Retention and completion components

Lending library. The lending library makes textbooks and access codes available to students who cannot afford to purchase the materials themselves. NECC believed that by decreasing costs associated with college they will reduce student debt and improve student retention and persistence to graduation. According to NECC administrators, preliminary data suggest that this initiative was quite successful in in terms of retention and graduation rates. Administrators targeted the use of SSA funds in purchasing materials based on previous tracking of student requests that the campus library could not provide. These materials included those for gateway courses such as Anatomy and Physiology I and II, Applied Technical Math, Calculus, and Statistics as well as some books for developmental mathematics courses.

Tutoring, supplemental instruction, and peer mentorship. NECC used its SSA funds to increase academic support for STEM students in Year 2 by expanding the number of courses with supplemental instructors, increasing tutoring hours, and providing targeted support for health professions students. In its

expansion of supplemental instruction, NECC focused on STEM courses that typically draw many STEM majors (e.g., Introduction to Computer Science, Anatomy and Physiology, and Chemistry).

Expanded STEM tutoring hours were offered at NECC's Lawrence campus and were viewed favorably by tutors and students. They reported that many students live in Lawrence and the proximity to tutoring makes it more accessible. One student appreciated that the tutoring time and space allowed her to focus on school work in a way she could not while at home.
"Without [the tutors] I would crumble," she said.

> *"Without [the tutors] I would crumble."*
> *NECC nursing student*

SSA funds also enabled NECC to provide targeted support for health-professions students including tutoring for radiology, respiratory care, and dental assisting and an online tutoring module for nursing and allied health. Administrators explained that NECC is a not often in a position to offer tutoring for students in these very specific programs and reported anecdotally hearing that these additions had been helpful.

Students who provided tutoring and supplemental instruction services reported that they also benefitted from these activities. They said tutoring refreshes their knowledge of the subject and most notably, piques their interest in future roles as STEM educators. The tutors expressed their enjoyment in helping their fellow students grasp STEM concepts. One tutor said, "I love seeing the look on students' faces … the enlightenment." Another tutor explained that his work as a tutor helped solidify his interest in being a computer science teacher. He said, "I didn't know what I wanted to do when I came to Northern Essex and that's totally changed since … getting involved with SI [supplemental instruction] …. [It] has just changed my life completely."

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> *NECC peer tutor*

Peer mentors supported students in STEM courses on the Lawrence campus to navigate college life issues such as keeping up with homework or attending class. Each peer mentor was assigned a group of students that they were responsible for contacting and supporting. Peer mentors are also used to keep students updated about opportunities such as NECC scholarships, FAFSA workshops, and the chance to attend events like the National Dominican Student Conference.

Technology infrastructure upgrades – NECC's technology upgrades to support teaching and learning included laptop computers for a biology lab and teaching workstations with wireless technology to facilitate student engagement (e.g., a microscope with a camera to which students could connect via WiFi). A biology instructor explained that the laptops allowed students to immediately engage with and analyze data during their lab time, providing a more research-like experience. Many NECC students do not own laptops and previously often struggled to do analysis outside of class in a computer lab without the instructor present. With the laptops, the instructor could also model how to use the analysis software or manipulate the data in class, so that students would be better equipped to examine the data and troubleshoot problems on their own once outside of lab.

Summer "App Inventor" workshops. These workshops were designed to keep current NECC STEM students engaged with the college over the summer and spark an interest in computer science and technology among non-STEM students. Open to current NECC students regardless of major, the workshops were each four-days long and were offered for free three times during the summer. In these interactive workshops, students designed apps for their own devices using an accessible tool (App Inventor) that required no programming knowledge or experience, but did require creativity and programmatic thinking.

Summer calculus boot camp. The calculus boot camp is a free, intensive, two-week long review of concepts for current NECC students.[2] It ran five days per week for four hours per day and included lunch, a free *Calculus for Dummies* textbook, and a calculator on loan. Two mathematics faculty taught eight students in a highly interactive, small group setting. Several students were simultaneously enrolled in NECC's summer session Calculus I or II class.

During our observation of the boot camp, students were very engaged, seemed comfortable with the instructors, and did not hesitate to ask questions. The two instructors alternated between working with

> "I wouldn't [be able to] pass the [Calculus I] course without taking the boot camp."
> NECC calculus boot camp student

the whole group and working more intensively with a couple students at a time. The students also seemed to help one another. The instructors had an engaging teaching style, turning questions back to students and having students work through problems on the board. Several students reported that having access to two different instructors was advantageous because the instructors could offer different approaches to the same problems.

Boot camp students were thankful for the opportunity to refresh their mathematics skills and learn new ways to approach problems. One student commented that the supportive and low-pressure learning environment made it easier to learn the concepts without the performance anxiety associated with for-credit courses. Students overwhelmingly appreciated that the boot camp was free and most felt it boosted their ability to perform in current and future mathematics and STEM courses. One said that concepts from the boot camp were transferrable to biology and geology courses and that it would "give me an edge going into the [science] field." Another student—on track to transfer from NECC to a four-year school in mechanical engineering—said that Calculus II was particularly hard and was glad for the extra help over the summer.

STEM retention scholarships. STEM retention scholarships are available to currently enrolled students to help cover the remaining balance of tuition, fees, books, and supplies after "free aid" is on their account. They are awarded based on a flexible combination of need and merit criteria. The scholarships target students who demonstrate an interest in STEM, show "academic potential," and who are at risk of not attending if their financial needs are not met. They are modeled after existing NECC retention scholarships that have proven to be effective (year-to-year retention figures for students receiving the original scholarship go as high as 70 percent). NECC awarded 24 STEM retention scholarships in the spring and summer semesters of 2015.

Year 3 Plans

In general, NECC administrators were positive about the prospects of their SSA programming in Year 3. Components that they were particularly enthusiastic about included STEM retention scholarships, the lending library, expanded tutoring and supplemental instruction, and the technology upgrades. One NECC faculty member reported that she was interested in bringing more STEM-related guest speakers to campus, including traumatic brain injury advocate Chris Nowinski and naturalist Sy Montgomery. She also wants to start a women in STEM group which would encourage female STEM faculty to engage with students around different career pathways and address barriers to women in the field.

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[2] Although targeting NECC students (the Boot Camp was advertised through an email to current students), some of the participating students were enrolled at other community colleges and four-year institutions but happened to be taking summer classes at NECC.

North Shore Community College (NECC)

The SSA program at NSCC is overseen by the Assistant Dean of Math and Science and managed by a part-time coordinator. A primary focus of NSCC's SSA program is a STEM focused dual-enrollment program for area high school students (supplemented with experiential and career-exploratory activities, peer mentoring and tutoring services). NSCC also supports current STEM students with scholarships, tutoring, peer mentoring, mathematics boot camps, and a STEM student club. NSCC's program does not specifically target underrepresented groups; however, their dual enrollment recruitment and outreach programming targets local high schools that have substantial populations of underrepresented students, many of whom are low income or potential first-generation college students.

Year 1 Review

In Year 1, the focus of SSA activities was retention and support of current STEM major students and engagement and recruitment of high school students.

Recruitment and readiness components

- Recruitment and awareness events included early acceptance dinners for potential incoming STEM students, peer mentor outreach, and STEM Career Days.

- A two-credit dual enrollment course, Introduction to Engineering, which targeted area high schools with substantial populations of first-generation and underrepresented students. Students went on field trips to local engineering firms and received support from a peer mentor.

- Free four-week mathematics boot camp for incoming and current developmental mathematics students with modules based on MyMathLab software.

- Initial planning for curriculum alignment in chemistry and other sciences.

Retention and completion components

- STEM-focused orientations for incoming STEM majors, including individual advising, a meeting with the dean and assistant dean of mathematics and science, and consultation with the SSA coordinator. The orientation covered topics including mathematics placement, career opportunities, working while attending college, planning for graduation, and available academic resources.

- Scholarships offered to current and incoming STEM majors with priority given to students who wanted to increase their credit load (i.e., taking a fourth or fifth course during a semester).

- Hiring a SSA coordinator who is responsible for support and guidance of STEM students, outreach in area high schools, and assistance to STEM faculty and staff involved with the SSA program. The coordinator is a person of color who hails from the Lynn community and has computer science expertise and considerable tutoring experience.

- Recruitment and hiring of the first cohort of STEM peer mentors whose primary role was to work closely with student enrollment services in outreach efforts, such as responding to student email inquiries and calling prospective students to let them know what it was like to be a STEM major.

Year 2 Description

In Year 2, NSCC shifted the focus of its SSA programming to concentrate on dual enrollment for area high school students, reflecting the priorities of new college administration. Peer mentors, who provide support to dual-enrollment and current college students, continued to be a central piece of the SSA program. Ongoing support for current STEM students included an SSA scholarship, tutoring support, and assistance from the SSA coordinator. The reorganization of the NSCC administration prompted more regular meetings between Student Affairs and Academic Affairs, which supported the administration and coordination of SSA. Coordinated efforts included professional development for advising staff around STEM-specific concerns (e.g., the need to take a mathematics class every semester) and identifying cooperation opportunities between SSA programs and STEM initiatives funded by other grants including TAACCCT 4. For example, a STEM advisor was supported by TAACCCT 4 and SSA funds focusing on "high touch" supports, such as intentional advising, college and career coaching, and contacts with industry. The SSA and TAACCCT 4 grants were also able to synergistically share relationships with industry and employers because the staff of the two grants meet with each other regularly.

> "We had a lot of fun in our classes and from what I heard from other people, they enjoyed it too. Sometimes it would be hard because of all the tests and work … but given what they learned and could apply in school too, it was something that was really worth it."
> NSCC dual-enrollment student

Recruitment and readiness components

Dual-Enrollment (DE) Courses for High School Students. Students from local high schools were recruited to take STEM courses—including courses in anatomy and physiology, computer science, engineering, and statistics—at NSCC in the fall, spring, and summer semesters of Year 2. NSCC also incorporated experiential activities such as field trips, hands-on projects, career advice, resume building, and speakers in their dual-enrollment courses. Based on experiences in Year 1, SSA administrators developed a mandatory orientation for DE students in Year 2 tailored to their specific concerns and needs as high school students.

DE courses for high school students were free and the textbooks required in the courses were also provided by NSCC at no cost. Students picked up textbooks from an administrator, adding another "touch point" to raise students' awareness of the administrators, faculty, and mentors who were there to support them. In fall 2014, the DE courses were exclusively populated by high school students; however, in the spring and summer of 2015, courses included DE and current NSCC students.

NSCC administrators reported success in terms of recruiting for the STEM DE program, with more applicants than spaces in the fall. Administrators attributed strong participation to an earlier start to recruitment efforts and a positive reception at area high schools. A breakfast event for area guidance counselors in the spring featured a panel of students who were currently taking STEM DE at NSCC and "went over very well." DE students also reported recruiting their peers, saying "we knew our experiences and we thought they'd enjoy it too." Some students returned to NSCC for more DE courses, and returning students were given preference in signing up for those courses.

DE students explained that the experience prepared them for college life and the intensive study of college-level coursework. One student said that DE gave him a head start, noting "[It's] a program where I can learn more and more and more, and actually get ahead of people … because it's actually giving you knowledge about college." Another student noted that taking the college-level courses required hard work and sacrifices, but that it would ultimately pay off, saying, "I knew that going into STEM would help me a lot in the future."

Experiential, career-focused activities were part of the SSA-supported DE program at NSCC. Students felt that these activities were instrumental in helping them learn the course material and discover their STEM-related interests and talents. A student who took a computer-aided design course explained that having the chance to observe and participate in designing a house on a computer was an "awesome experience" because it was relevant to his high school major and his goal of becoming an architectural engineer. Another student reported that he discovered that he wants to become a civil engineer as a result of a construction career day that focused on a green roof design project. "When I went [to the construction career day]," he explained, "I saw how everything was built and was like 'I want to be a part of that.' I want to say to friends or my kids, 'I helped build that.' You feel proud of yourself when you do that—even thinking about that feels good and gets me excited."

UMDI observed one of these experiential opportunities—a service learning activity cosponsored by Girls Inc. and SSA, where about 35 middle school girls from Lynn were brought to NSCC for an activity that involved building model bridges. Eleven students from the Introduction to Engineering class (mostly high school DE students) joined the activity as facilitators and mentors. For these students, the activity was scheduled as the second half of a typical class session. The students knew there would be a service learning activity, but did not know what the specific activity would be in advance.

One or two DE students were assigned to each group of five or six girls. There was limited interaction between the DE students and the visiting girls at first, but the DE students eventually found various ways to engage with the Girls Inc. participants—some by making suggestions and others by assisting with construction.

The course instructor and the SSA coordinator both said that students would be asked to discuss team work in future class sessions and that they hoped the DE students would learn facilitation skills from the experience.

STEM career days. NSCC held STEM Career Days where invited industry professionals spoke to high school and current college students. These included representatives from Fitbit, Analogic, the Smithsonian, Applied Materials, and Microdata, who spoke to students about their corporations and their careers, and told them whether there are any job openings.

Boot camps. NSCC offered two week-long mathematics boot camps in January before the start of the spring semester using the modularized curriculum from the Year 1 boot camp. The intention of these no-cost boot camps was to get students "up and running before the start of the semester." Unlike the Year 1 summer boot camp, the January versions were focused on addressing "little achievement gaps" instead of getting students through multiple modules. If a student was close to finishing a course at the end of fall semester, NSCC tried to engage them and get them to complete the course through the boot camps.

NSCC also implemented some free, one-night boot camps that focused on refreshing concepts for people that had not taken a mathematics course in a long time—such as students who had not recently graduated from high school. Food was provided and the SSA coordinator commented that "with this community, [food] really makes a difference …. They were happy, they were excited, they loved the opportunity."

> "When I went [to the construction career day], I saw how everything was built and was like 'I want to be a part of that.' I want to say to friends or my kids, 'I helped build that.' You feel proud of yourself when you do that – even thinking about that feels good and gets me excited."
> NSCC dual-enrollment student

Curriculum alignment. NSCC started the process of developing agreements for mathematics alignment with high schools in their service area. The process was been challenging because it was difficult to get college and high school faculty to come to the table to hash out alignment issues. Also,

working with Lynn Public Schools system was challenging due to the number of schools in the district, teachers' union issues, and questions of who would pay for the alignment work. Despite these challenges, an NSCC administrator said, "We're getting there."

Retention and completion components

STEM peer mentors, tutoring, and supplemental instruction. STEM peer mentors were NSCC students who had successfully completed several STEM classes. They participated in outreach, orientations, guidance, and tutoring for STEM students and generally kept in touch with all students who had experienced any part of the SSA program. The SSA coordinator oversaw the peer mentors and used his connection as a former staff member of the tutoring center to recruit additional peer mentors. Mentors were also identified by other NSCC faculty and staff. Administrators explained that peer mentoring was "the hallmark program" of the SSA initiative at NSCC and, furthermore, was a particularly sustainable program as most mentors qualified for work-study funding.

In Year 2, peer mentors were assigned to a specific STEM program and to a group of students with whom they would touch base regularly through email or by visiting classrooms. Peer mentors would respond to or meet with any student who requested further support. The peer mentoring program was similar to an intrusive advising model: administrators and the SSA coordinator ensured that there were "high touch points" between peer mentors and STEM students at critical periods, such as during add/drop and withdrawal periods, midterm exams, and early alert periods. The SSA coordinator also piloted a supplemental instruction model using peer mentors in Year 2, which he said went well. "All of the students did amazing," he said. "They got mentored, they got help, and they all were successful. All the ones that took advantage of [the supplemental instruction peer mentor] did extremely well."

Peer mentors also commented that students appreciated and regularly used their services—to the point where they were stretched thin because of the amount of student demand. NSCC administrators noted that it was difficult to recruit and retain peer mentors because they had to find individuals who had taken and excelled in STEM courses and had the time and inclination to do the work. There was high turnover because the peer mentors regularly successfully completed their program of study and graduated or transferred.

According to peer mentors, the job was beneficial to the mentors themselves. They commented that it reinforced their STEM knowledge and skills and helped them appreciate different approaches and learning styles. For example, a mentor noted, "As I am tutoring, I am learning something new. [In] classes that I've taken already, I'd be surprised by a math problem. I'm more willing to learn when helping the student and finding [new] ways to solve problems." The SSA Coordinator reported that mentors have reported changing their professional trajectories because of their experience helping STEM students, often considering going into teaching in a STEM field.

> *"As I am tutoring I am learning something new. [In] classes that I've taken already, I'd be surprised by a math problem. I'm more willing to learn when helping the student and finding [new] ways to solve problems."*
> *NSCC peer mentor and tutor*

In addition to expanded peer mentoring, NSCC administrators also increased a mix of STEM peer and professional tutoring at the tutoring centers on the Lynn and Danvers campuses beginning in the fall semester. The increase was intended to meet the needs of the 75 high school students in dual-enrollment courses and included tutoring center hours that were appropriate for the high school population (e.g. between 4 and 7 p.m.).

STEM Starter Academy Year 2 Evaluation Report Appendices   Appendix R

STEM-focused orientations. In Year 2, NSCC increased "front end" support and contact with incoming students. Incoming students were required to attend an orientation where they and their parents could find out more about the college's STEM programs and meet administrators, staff, and peer mentors who were part of a network of support. The SSA coordinator maintained a contact list of these STEM students, emailed them about upcoming STEM-related events, and ran a "phone-a-thon" to remind current and incoming STEM students to register for classes.

STEM club. The Stars of STEM club helped STEM students as they prepared for the transition from NSCC to a four-year college or career; raised funds to support STEM students in need of financial assistance; and boosted awareness of STEM-related careers, majors, schools, internships, and volunteer job opportunities. The SSA coordinator also used the Stars of STEM Facebook page to get the word out to students about STEM opportunities.

SSA scholarship program. In the spring, SSA offered competitive scholarships to STEM students who were already signed up for nine credits and who were looking to add another four-credit STEM class to their course load. Scholarships were also available for students looking to take a STEM class over the summer. Students applied by writing an essay. NSCC decided not to offer the scholarship in the fall because incoming students in that semester had many more scholarship opportunities. NSCC administrators considered the scholarship to be a successful practice and reported that most students who received the SSA scholarship in Year 1 have graduated.

Year 3 Plans

NSCC administrators were generally optimistic about the direction of their program in Year 3—particularly in regard to the effectiveness of peer mentoring. They also envisioned further synergies between SSA and TAACCCT 4 as well as other grant-funded STEM initiatives. NSCC administrators were eager to use lessons learned in Years 1 and 2 to make a number of expansions and tweaks to SSA programming in Year 3. These plans are summarized in "recruitment and readiness" and "retention and completion" categories below.

Recruitment and readiness

- ***Elimination of free textbooks for dual enrollment students***. Dual enrollment will likely continue as a central feature of NSCC's program; however, administrators anticipate that they may eliminate the free textbook program, which is costly and time-consuming.

- ***Increased support for dual-enrollment students***. NSCC plans to introduce more peer mentors and "high touch" experiences where students frequently interact with STEM faculty, staff, and peers.

- ***Expanded and adjusted mathematics boot camps***. Administrators are considering keeping the module-based boot camps and/or "one-nighter" sessions for current and dual-enrollment students, and possibly adding a non-modular boot camp for students who need developmental mathematics.

Retention and completion

- ***Enhancing internships, job shadowing, and job placement***. In collaboration with other STEM-related grants, SSA administrators plan to develop internships and job shadowing opportunities, build "non-credit to credit" pathways, and develop certificate programs. They may also formalize

a process to coordinate with the co-op program to match students with job openings and prepare them for interviews.

- ▪ *Expanding academic supports*. Based on a successful pilot, NSCC administrators anticipate introducing supplemental instruction as another form of STEM student support. They hope to "free up" the peer mentors to focus more on relationship building with STEM students than tutoring.

- ▪ *Expand supports for biotech and health students*. These students are primarily located on the Danvers campus, where NSCC is hoping to make STEM support more visible. A Massachusetts Life Sciences grant is expected to infuse sustainable resources like lab equipment for biotech students affected by the SSA program.

- ▪ *Modification the SSA scholarship program*. For Year 3, the funding may be split into two pools. The first pool would continue to be for students taking nine credits the following semester and who want to take an extra course. The other pool would be for students who make it "half-way" through their program, with about 35–40 credits, and who are trying to finish.

Mount Wachusett Community College (MWCC)

The SSA programming at MWCC is administered by the Assistant Dean of the School of Business, Science, Technology & Mathematics with considerable involvement from other departments and divisions. A STEM recruiter and STEM advisor help to coordinate and manage SSA activities. There are two central components to MWCC's SSA program: (1) a summer academy – a free, intensive STEM-preparatory program for recent high school graduates, adult learners, and current students who agree to enroll in one of MWCC's STEM programs in the fall semester; and (2) Math Modeling – a college-mathematics readiness program for area high school seniors. MWCC has also used SSA funds to offer STEM awareness events for high school and currently enrolled students and has purchased science and mathematics equipment. MWCC's summer academy has a substantial focus on underserved individuals; 70 percent of those served in Year 1 were first-generation college students, 57 percent were low income, 30 percent were non-white, and 26 percent had a disability. The Math Modeling program is not specifically targeted to underrepresented populations; however, it does reach many low income high school students who live in an economically depressed region.

Year 1 Review

In Year 1, the SSA activities primarily focused on recruitment and readiness activities for incoming and high school students.

Recruitment and readiness components

- STEM Awareness Event – Over 200 high school seniors and teachers participated in a STEM Majors Fair, presentations by the chemistry and health occupations faculty, and financial aid/financial literacy workshops. The event was designed to increase awareness of STEM fields and convey the affordability of community college education.

- STEM Starter Summer Academy – a rigorous seven-week academic program where high school students who agreed to matriculate in fall 2014 were enrolled in two college-level classes, participated in community service, received tutoring and advising support, and were given a stipend. Twenty-two of the 23 academy students matriculated that fall.

- Math Modeling – a college-readiness mathematics initiative for over 300 high school seniors in two area high schools.

Year 2 Description

Again in Year 2, the main SSA program components at MWCC included the Summer Academy and Math Modeling initiative. Administrators made strategic adjustments to the Summer Academy based on Year 1 data, student feedback, staff reflection, and multiple meetings. Changes included reducing the session from seven to six weeks, incorporating a more defined service learning activity, and giving students the option of taking one or two college classes. The Year 2 STEM Awareness Day was similar in content to the previous year but had a smaller and more targeted audience. MWCC also purchased equipment and software to support STEM-related library resources and to improve engagement in STEM classes.

Recruitment and readiness components

Summer academy. MWCC's Year 2 Summer Academy's format was largely similar to that offered in Year 1 and aimed to improve college readiness, build self-reliance and academic skills, and foster relationships with peers, staff, and faculty. The first week of the six-week program consisted of mandatory orientation activities, including field trips, speakers, stipend paperwork, and a spatial awareness workshop. The remaining five weeks included one or two free college-level courses, free textbooks, daily mandatory study periods, a community service activity, and tutoring. Participants received a stipend if they attended the required Summer Academy activities, complete a time sheet, and sign in and out each day. In Year 2, the service-learning project was changed from an intensive, summer-long project to a circumscribed service activity that was part of a larger MWCC initiative (Leadership Academy), allowing SSA students to meet other members of the college community. Also different in Year 2, SSA students participated in regular summer-session classes with non-SSA students. In Year 1, course sections were offered specifically for SSA students, with some tuition-paying non-SSA students also allowed to attend.

The Summer Academy was open to recent high school graduates and adult learners who placed into English Composition and Intermediate Algebra or higher, and who committed to enroll in one of MWCC's STEM programs in fall 2015. Current community college students with limited credits were also eligible if they could show that the Academy would "keep them on track." The Year 2 cohort of 20 students were primarily traditional recent high school graduates, but also included armed services veterans, Gateway to College participants, and a few single parents. When recruiting students, MWCC prioritized clear messaging and reinforcement of the program's rigor and expectations in order to bring in students who were committed and had the best chance to succeed. Prior to the start of the Summer Academy, every accepted applicant had a one-on-one conversation with the SSA recruiter, both to screen for students who would most benefit from the academy and to emphasize the level of commitment that the program required.

Summer Academy participants received a stipend that was uniquely large among the SSA grantees (up to $1,750). It was also uniquely administered through a payroll system. Students had to sign an employment contract during the orientation and fill out weekly timesheets in order to collect their stipend. Participants also had a contractual obligation to matriculate in the subsequent fall semester (with the consequence of having to reimburse subsidized summer tuition and fees). MWCC offered participants in Year 2 the choice of enrolling in just one course and earning a "half-stipend" as an alternative to the two courses and full stipend in an effort to reach more students, "stretch" available stipend money, and provide a less intense option.

Administrators believed that the stipend and the associated payroll paperwork reinforced a sense that the Summer Academy was on par with having a job. They also felt that, without the financial support of the stipend, many students would not be able to attend. The Dean of Mathematics and Sciences explained that the stipend "makes something accessible that might not otherwise be accessible" at an economically depressed time in an economically depressed area. The dean continued, "This makes a big difference for opening doors for people who might not have an open door. [They have] never seen one. They might have been climbing through windows or over roofs but they never had a door open and [the stipend] makes it much better for them."

> "Through [the Summer Academy] I got to meet other new people and I found connections, and knew what schools would be better for me to apply to for transfer. Now I'm transferring, so I feel like [it was] a chain reaction. It leads to one thing and that leads to another thing."
> MWCC Summer Academy student

Generally, students felt that the summer program was demanding, but also included the kinds of supports they needed to succeed. A Year 2 cohort student explained that the program was intensive and "a lot to take in because … sometimes [they] have class for five hours a day." The accelerated pace of summer coursework also meant students were regularly asked to demonstrate what they had learned—as one student noted, "Every single class we have we have at least a quiz or a test." However, a student from the Year 1 cohort assured the Year 2 cohort that the rigorous classes would pay off: "In some ways that [rigor] is going to be a good thing … because when you switch to regular classes it's going to feel like, not slow, but so managable. [The academic year] is no where near as intense as what you did in the summer."

Students felt that the supports for building the skills they needed to deal with this intensity were effectively infused into their courses. For example Biology 113—an introduction to college-level science course open to Summer Academy students—was "front loaded" with college success skills, including study skills and strategies for different types of learners. The instructor also incorporated some informal advising before and after class as well as discussion about careers, including discussing the instructor's own career in industry.

> ""I guess I'm getting broken into the fact that you have to do a lot of independent work. I didn't have to do too much of it before college … Now, I'm getting into the fact that you have to spend hours a week and seek outside help. I think getting used to that is good because all I hear about college classes is 'Man I have to do so much work'."
> MWCC Summer Academy student

During UMDI's observation of this class, the instructor was actively engaged with students, moving about the lab classroom to check in and answer questions as groups of students worked to build models of carbohydrates. These interactions just as often included support for study skills as for course content. Similarly, during an observation of an Algebra II course when students were doing some independent work, UMDI observed that the mathematics instructor was actively monitoring students' abilities to complete problems in the MyMathLab platform. He seemed to adapt his approach for both students who readily asked questions and students who were more reluctant to ask for help.

The combination of in-class and out-of-class support taught students to independently take charge of their academic career, according to Summer Academy participants. One Year 2 participant said, "I guess I'm getting broken into the fact that you have to do a lot of independent work. I didn't have to do too much of it before college … Now, I'm getting into the fact that you have to spend hours a week and seek outside help. I think getting used to that is good because all I hear about college classes is 'Man I have to do so much work.'" Time management was viewed as a particularly salient skill. Mandatory study time provided students with the opportunity to independently determine and seek out the supports they might need. In Year 1, the tutors came to a designated room where students were required to spend their study

time. In Year 2, students were encouraged to go to the library or tutoring center during study time and seek out the resources that they needed. Students reported that they were generally afforded with whatever assistance they needed. One student explained that the model for support and resources was "ask and you shall receive."

In order to encourage peer-to-peer support, the Summer Academy implemented a robust cohort model. Students participated jointly in an intensive orientation week, spent their mandatory daily study time

> *"It was the best part ... Just looking at those people at the peak of their career. They are a living example for you. It just motivates you a lot. It motivates me a lot and gives me energy to start differently. And get the motivation to give your 100% to get to that point. It was an amazing thing."*
> *MWCC Summer Academy student*

together, and sometimes were in the same courses. Most students said that it was helpful to take classes with other students from their cohort because they could turn to their peers for help. "We work with each other and help each other out," one student explained. "If I don't understand something I can ask one of them to help me." Another student noted that there were advantages to reaching out to a student in the Summer Academy cohort as opposed to a regular classmate; "It's because you see them and interact with them every day. So you learn best with them because you catch [on] faster than if there's a distance and you don't see the person enough." Three students from the Year 1 cohort agreed that they had maintained a sense of community during the academic year by studying together and seeing each other socially. Both cohorts of students felt that a shared sense of purpose brought them together to support each other; as one student commented, "You have the same goals. You're all shooting towards the same thing."

Students also developed beneficial relationships with faculty and staff, including with the recruiter, whose role in the summer was to work closely with students to redirect them to tutoring or to facilitate conversations with instructors about difficult assignments. A student from the Year 1 cohort explained that forging these connections was helpful in planning his post-MWCC education: "Through [the Summer Academy] I got to meet other new people and I found connections, and knew what schools would be better for me to apply to for transfer. Now I'm transferring, so I feel like [it was] a chain reaction. It leads to one thing and that leads to another thing." Students were enthusiastic about the professors' responsiveness and assistance in regard to effective studying and time management. When students said they were struggling with material, a biology professor immediately set up after-class time with her teaching assistant for them. Some professors would provide study guides before exams so that students knew where to focus their attention, or they would review concepts that students struggled with on exams. Professors were also reportedly proactive about discovering and adapting to students' learning styles.

Students particularly appreciated the four field trips they took during orientation week. One student underscored that the trips were a chance to see role models in action: "It was the best part ... Just looking at those people at the peak of their career. They are a living example for you. It just motivates you a lot. It motivates me a lot and gives me energy to start differently and get the motivation to give your 100 percent to get to that point. It was an amazing thing."

Math modeling. The Math Modeling program aimed to get high school students ready for college-level mathematics. The program is taught by high school instructors at four local high schools who use MWCC-generated curriculum focused on teaching developmental mathematics through "modeling" applications. The program was paid for through a unique integration of multiple funding streams. SSA funding provided a course release for a mathematics faculty member to assist high school teachers who were implementing the Math Modeling curriculum. This faculty member was in constant contact with the four schools, had monthly meetings with each high school, and traveled to the high schools as needed.

During the 2014–15 academic year, Math Modeling served over 300 students, 72% of whom were college-ready in mathematics by the end of the school year. An administrator noted that many students appeared to shed their fear of mathematics by participating in the program. Despite considerable outreach efforts, including phone calls and direct mail, relatively few Math Modeling students matriculated to MWCC and/or participated in the Summer Academy. Administrators explained that the low rate likely reflected that the program was offered to all students in the partner high schools, not just students who were interested in STEM careers or attending MWCC. As a result, MWCC administrators planned to shift the program's focus in Year 3 to include supporting students with college applications.

STEM awareness day. As in Year 1, this event featured career-focused STEM presentations and financial aid / financial literacy workshops. A Year 1 Summer Academy student also spoke at the event. For the Year 2 event, MWCC opened up registration to current MWCC general studies and liberal arts students in addition to the high school seniors targeted in Year 1. While administrators were pleased that the Year 1 STEM Awareness Day was well attended, they were not satisfied with the engagement of attendees—many were simply not interested in following the STEM pathway. The Year 2 event was smaller, but all students who were recruited and registered had demonstrated a clear interest in STEM or a desire to know more about science and mathematics majors.

Retention and completion components

Purchase of STEM technology and equipment. MWCC purchased equipment for physics, biotechnology, automotive technology, computer science, health occupations, and mathematics programs. This included an emulator that allowed students to see a professor's calculator keystrokes projected onto a screen. The library added an area dedicated to mathematics where students could access tutoring services and 21 all-in-one computers loaded with calculator and Mathematica software. Mathematics modeling and graphing calculator software were also installed on classroom computers.

Academic year preparation and support for summer academy participants. In Year 2, MWCC did not offer a formal support structure for 2014 Summer Academy participants. In fall 2014, MWCC used SSA money to fund a STEM advisor who remained in touch with the Year 1 Summer Academy cohort into the academic year; however, 9c cuts forced the college to eliminate that position in the spring. Thus, Summer Academy students merged into the normal student population during the academic year, but had access to campus-wide supports, including tutoring, advising, and career services.

Despite being "mainstreamed" into the typical student experience during the academic year, most Summer Academy students have persisted. Administrators reported that 20 of 22 Year 1 Academy participants remained enrolled from the fall 2014 to the spring 2015 semester. As previously noted, students from the Year 1 Summer Academy reported that the connections developed with each other, faculty, and staff as well as the skills they built in the academy made academic year studies more manageable. Program administrators and coordinators reported remaining actively engaged in supporting SSA students; for example, they encouraged students to seek out resources such as an NSF grant-funded scholarship that many Summer Academy students applied for and received.

Year 3 Plans

MWCC administrators and faculty were positive about the outlook of their SSA programming in Year 3 and anticipated future synergies with programs like Complete College America, GPS in STEM, NSF funding, and the TAACCCT 4 grant. They felt that their recruitment efforts were largely "on target"; however, they were considering reaching out to more industry representatives for future STEM Awareness Days and similar events. Additionally, while largely satisfied with the Summer Academy and Math Modeling, the administrators anticipated continuing to adapt each of these programs. For Year 3,

MWCC has prioritized hiring a STEM advisor so that students exiting the Summer Academy and entering the academic year at MWCC will have dedicated guidance.

Administrators were in the process of adding more high schools to the Math Modeling program and, as discussed above, expanding the goals of the program to include support for students in the college application process. Math Modeling high school teachers reported that students were not applying to and attending college because they did not know how to fill out the forms and get financial aid. MWCC administrators were working with these teachers to understand how to best assist these students. MWCC administrators a said they would like to increase the number of Math Modeling participants who enroll at MWCC. Administrators and faculty also said they wanted to create a program tailored to Math Modeling students who do attend MWCC. This program would acknowledge students' high school work, offer them continued mathematics tutoring, and keep them on track to graduation.

Roxbury Community College (RCC)

The SSA program at RCC is overseen by the Vice President of Academic and Student Affairs. In the second year of the grant, the Dean of Arts and Sciences managed the SSA program's Summer STEM Academy. A faculty member serves as the Summer STEM Academy's academic program director. RCC's summer program uniquely focuses on younger high school students (9th and 10th graders) who are predominantly students of color. The college also uses SSA funds to publish its *CareerFocus* magazine, which serves as a recruiting tool and provides information about STEM fields, education, skills, and employment to residents in RCC's service area, many of whom are underserved.

Year 1 Review

In Year 1, the focus of SSA activities was recruitment and readiness of high school students as well as generating awareness of STEM careers and STEM programs offered at RCC.

Recruitment and readiness components

- *High school recruitment*. Recruitment activities included breakfast events with local headmasters and school counselors, college and career days at the college, and events that target approximately 200 students at Madison Park Vocational Technical High School, including presentations on allied health careers, a motivational speaker, and a crime scene investigation simulation designed by RCC faculty.

- *Summer STEM academy*. A free, five-week program for Madison Park Vocational Technical High School students linked to the RoxMAPP initiative.[3] The academy primarily served rising juniors and seniors, but also served some recent graduates. It offered basic skills prep in mathematics and science (including Accuplacer test prep); STEM exploration activities such as hands-on labs, simulations, and field trips; extra tutoring and advising; and paid job-shadowing internships. Students were paid an hourly stipend for participating.

- *Instructional materials purchases*. Purchase of instructional materials, including tablet computers that were loaned to Summer STEM Academy participants.

- *Publication of* **CareerFocus** *magazine*. The magazine is designed to enhance awareness of STEM careers and the related programs available at RCC. It was sent to the 80,000 households in the RCC service area and was published in print and electronic form. The magazine contained

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[3] RoxMAPP is a partnership between the City of Boston and the Commonwealth to provide Madison Park students with pathways to careers and higher education.

articles and information about career preparation, financial aid, jobs in the local community, starting salaries, and academic expectations. SSA funding was leveraged with other funding to support this publication.

Year 2 Description

In Year 2, RCC continued to focus its SSA program on recruitment and readiness of high school students primarily through its Summer STEM Academy. Administrators made several significant alterations to the academy in the second year of the grant: RCC targeted younger students, recruited students from additional high schools, expanded the number of participants, and offered non-credit courses in six subjects (physics, chemistry, biology, mathematics, computer science, and robotics). The academy did not include internships in the second year but did incorporate several field trips. To emphasize that the summer program was fun, administrators and faculty reframed it as a STEM "Camp" in Year 2. RCC also continued to use SSA funds to publish two more issues of its *CareerFocus* magazine.

Recruitment and readiness components

Summer STEM camp. In Year 2, the Summer STEM Camp primarily served 9th- and 10th-grade students as well as some incoming high school freshmen. Administrators strategically changed the targeted age range to "plant the seed earlier" and to focus on students with fewer competing demands on their time. In addition, administrators hoped these students would return to campus for a second summer to participate in more advanced STEM work. RCC also dramatically increased the size of the academy; participation increased from about 10 primary participants in Year 1 to 77 in Year 2. Administrators attributed the success of their recruitment efforts to expanded outreach beyond Madison Park Vocational Technical High School and direct-contact recruiting with parents and community institutions—particularly local churches.

> *"[The hands-on activities] increase their interest in STEM … because some of these kids … want to do STEM careers but they have never been exposed to the real activities, the real lab activities that way. It can catch their interest and they know what it takes to be doing science."*
> *RCC Administrator*

Students who applied to the program had to complete an application and provide a recommendation from one of their teachers. While students' grades were considered, administrators did not limit the academy to only high-achieving students. They were interested in identifying all participants who were interested and invested in learning. Participants were also expected to maintain appropriate behavior; if they failed to do so, they were asked to leave the academy by the academic program director.

The academy ran for five weeks, Monday through Thursday from 8 a.m. to 2 p.m. Students were divided into three groups of about 25 and rotated through non-credit,[4] ungraded classes in chemistry, biology, and robotics in the morning and physics, mathematics, and computer science in the afternoons. Field trips were held on Thursdays. Students were provided with breakfast and lunch daily and were offered a $300 stipend for participation and completion based on strict attendance requirements. Administrators believed that even without the assignment of grades, students were motivated to pay attention in class because they knew the content would help them get ahead in their future high school and college classes. Teaching assistants (TAs) also reported that students were motivated to stay engaged by the desire to improve their future education and career prospects.

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[4] A special articulation agreement with RCC allowed Madison Park High School students to receive some high school credits.

The classes, curriculum, labs, and other activities included in the summer program were developed by faculty specifically for the Summer STEM Camp and focused on experiential learning and engagement. In the robotics class, for example, students worked in teams to design, build, and program a robot, then competed within each class for a spot in a cross-class competition to be held later that week. Teams were judged on how well they met certain predetermined criteria, their robot's ability to perform accurately during the competition, and their team's creativity. TAs reported that students built confidence in this interactive environment. One TA said, "I've noticed them interacting more as the program is moving along. They're raising their hands. Their making solid proposals, argumentative statements, educated questions that can pose a debate. They're interacting a lot more with the professors about what's going on. Getting a lot of things from it."

"I've noticed them interacting more as the program is moving along. They're raising their hands. They're making solid proposals, argumentative statements, educated questions that can pose a debate. They're interacting a lot more with the professors about what's going on. [They are] getting a lot of things from it."
RCC Summer STEM Camp TA

Field trips were another experiential component of the camp and helped to forge relationships among students who were drawn from several different schools. The administrators sent the group to a ropes course during their first week as a team-building activity, which students reportedly enjoyed. Students spent a lot of time in their groups, moving together from class to class. A lot of the classroom activities UMDI observed seemed team-based, and faculty commented on how well students built friendships even though they did not know each other at the beginning of the program. Students told UMDI that friendships they made were one of the best parts of the program. To promote peer connections during and after the camp, RCC created a Facebook page so students could keep in contact with one another.

Each group of STEM Camp students was supported by a TA who was a current RCC student. TAs followed students on their rotations through different classes and with different faculty, and also chaperoned field trips and monitored students at lunch and other breaks throughout the day. TAs reported that their role was to make sure students were being productive and respectful, getting the work done, and actually understanding the content. TAs supported students socially and academically, talking with students about their education, career plans, and working hard in class. "[We] talk to them about having a clear vision on your life. It's not all fun and games. Let's get it done—wake up. That's when they started improving the work that they were doing in class. They were getting assignments done half way, and now they're completing [them] faster" a TA reported. The TAs also explained that they actively encouraged students to engage in peer-to-peer learning. For example, when a TA observed that some students were struggling with a mathematics topic and could not catch on to the professor's instruction, she paired the students who were struggling with the students who were the most confident in the material. Administrators believed that the program "could not be done without the TAs" because they played multiple roles and formed strong connections with the participating students.

In addition to the TAs and their peers, SSA camp students had the support and mentorship of faculty, administrators, and staff. The program director, a chemistry faculty member, met individually with students every afternoon in addition to ongoing check-ins throughout the day. During our observation, she was in constant conversation with students as she took us around, answering their questions, checking in about a hardship, and reminding them of the rules. Other faculty also built relationships with students. The chemistry professor started the camp with one-on-one conversations with each student to discover how they learn. The biology professor also works in the advising department part of the time and incorporated advising into the classroom.

Administrators and faculty believed that RCC was well suited culturally to cater to the needs of students of color, international students, and underserved students. The professor who offered the Summer STEM

Camp biology class said that RCC is an ideal institution to offer STEM awareness and college readiness programs to underserved youth and students of color because it is essentially a HBCU (Historically Black College or University). Administrators explained that many camp students were from households that have recently immigrated and that RCC, with a high international student population, offered supports for "home language issues" and had faculty that were used to "working with different cultures." Parents from distant cities like Taunton were willing to drive their students a long way to attend the Summer STEM Camp because they knew that RCC "will take care of them." TAs, all of whom were also students of color, said they enjoyed working with the camp participants because it was "refreshing" to see young students of color defying stereotypes. It was gratifying, they said, to see students demonstrate their academic skills and succeed in the program. One TA said, "When you have your people getting the work done and understanding and telling you what they want to do …, saying, 'I learned how to do this! Want me to show you?,' …. it's very rewarding. I'm happy every day."

> *"They're getting it done and [saying] 'I learned how to do this! Want me to show you?' They are very excited about that. It's very rewarding. I'm happy every day."*
> *RCC Summer STEM Camp TA discussing the Summer STEM Camp's impact on participants*

Administrators reported that most students demonstrated a commitment to the program and few had any substantial behavioral issues. The program director believed a strong indicator of students' dedication and the success of the program was that the student attendance ranged from 85 to 95 percent over the course of the summer session. She laid out very clear rules, made it clear that students could be dismissed from the program if there were infractions, and explained that the rules were tied to their future success. "When they set their feet on this campus, I say, 'This is college. You are responsible for your actions,'" she said, adding, "'Your future starts now. Not tomorrow.'" TAs also reported that students largely fell in line and took the camp seriously. One TA said that sometimes she could see that students were not happy to be inside in the early morning during the summer, but that they generally came to enjoy the classes, activities, and field trips. Moreover, she believed that students would really come to appreciate what they were gaining in the camp after it ended. "When the program is over, that's when everything is going to hit them, when everything is going to dawn on them," she explained. "They might not be able to apply it to anything right now, but later it's going to come into play for them."

CareerFocus *Magazine.* RCC used SSA funding to contribute to the publication of two additional hard-copy and electronic issues of the magazine in December 2014 and June 2015. *CareerFocus* continued to spotlight RCC programs and faculty, provide tips to job seekers, and describe different STEM and non-STEM fields and professions. The December issue highlighted RCC's radiology program, profiled an RCC biology professor who works in the pharmaceutical industry, and featured STEM-related careers in transportation and construction. The June issue covered RCC's development of a clean energy program, discussed transfer options to four-year institutions, and featured RCC's phlebotomy technician training program, including a profile of an alumna working as a phlebotomist.

Year 3 Plans

RCC administrators felt that the Summer STEM Academy and Math Boot Camp components of their Year 2 SSA program were successful. They reported that the software purchased for the boot camp will remain as a resource in the college's mathematics lab. They anticipated using the software in future boot camps and incorporating it into the Year 3 Summer STEM Academy—particularly for the older, returning students. RCC also intended to continue to publish its *CareerFocus* magazine, with any non-STEM-centered issues to be paid for with other funds. Notably, administrators were considering significant changes and enhancements to the Summer STEM Academy, which are summarized in the bullets below.

- *Increase and diversify Summer STEM Academy participation.* RCC administrators would like to increase the number of academy participants to 100–125 students in Year 3. The larger cohort would be split into two groups. The first group would consist of high school freshman and sophomores who would be introduced to foundational STEM concepts and participate in STEM field and career awareness activities. The second group of juniors and seniors would focus on more advanced STEM content and engage in college and career planning activities. For this latter group, administrators planned to recruit students who participated in Year 2, but admissions will be competitive. First-time applicants will be screened by the criteria similar to that used in Year 2.

- *Provide individualized advising to participants who are rising seniors*. Administrators believed that it would be beneficial to connect participants who will graduate high school in the next academic year with a specific advisor who could discuss and plan their future education and career pathway.

- *Reincorporate internships in the summer STEM academy*. Administrators plan to include internships in Year 3. They are particularly interested in placing students in local research facilities such as the MIT labs.

- *Expand experiential activities*. The third year of the academy, especially the more advanced program, will possibly include more hands-on experiences, including dissection in biology labs and visits to Boston-area college campuses.

- *Provide an overview of RCC academic supports and programs to academy students*. Administrators would like to devote a day of the academy to introducing students to resources available to students enrolled at RCC. They want professors and alumni to talk about the community college experience and department representatives to describe the nursing, biotech, and engineering programs. Possible topics include the advising process and services, applying for financial aid, and the importance of students' GPAs.

STEM Starter Academy
Awardee Gathering Feedback Survey – March 30, 2015 - RESULTS

Your candid response to this confidential survey is appreciated.

Note that some questions may not apply to some participants. In these instances, please select "DK/NA" (don't know/not applicable). ***Please strive to write legibly!***

1. **In what role are you participating in this gathering of STEM Starter Academy awardees? N=23**

   O   STEM Starter Academy Program Manager/Coordinator **[8/23, 34.8%]**

   O   STEM Starter Academy College Administrator **[12/23, 52.2%]**

   O   Other, please describe _____**[3/23, 13.0%]**

2. **To what extent do you agree or disagree with the following statements regarding this gathering?**

This gathering of STEM Starter Academy awardees…	Strongly Agree	Agree	Disagree	Strongly Disagree	DK/NA
Gave me valuable new ideas and perspectives	39%	61%	0%	0%	0%
Offered participants a positive learning environment	43%	57%	0%	0%	0%
Provided activities that helped me actively engage with the content	30%	65%	4%	0%	0%
Allowed sufficient opportunity ask questions	39%	52%	4%	0%	4%
Included sufficient time to network with other participants	17%	52%	30%	0%	0%
Was clear in its connection to STEM Starter Academy objectives	48%	43%	4%	0%	4%
Was helpful in facilitating my reflection on 'lessons learned' and 'promising practices' that have emerged from work being done at my site	43%	35%	9%	0%	13%
Provided an effective venue for participants to share 'lessons learned' and 'promising practices' that have emerged from their sites	43%	52%	4%	0%	0%
Spurred my thinking about revising our approach to and/or identifying implementation priorities	48%	48%	4%	0%	0%
Offered concrete and useful examples of how other sites are refining their STEM Starter Academy programming	57%	39%	0%	0%	4%
Provided a helpful opportunity to discuss and collaborate with others facing similar issues	22%	70%	9%	0%	0%
Will likely influence how I approach this work at my site	48%	43%	0%	0%	9%

3. **What was most useful to you about this gathering?**

- Hearing about how SSA was conceptualized and implemented on various campuses.
- The sharing – loved hearing what other campuses are doing.
- It was good to hear how other colleges approach SSA.
- Discussion!
- To hear what other colleges are implementing.
- Sharing what each campus thought SSA was and hearing about the activities completed.
- The collaboration of the group.
- It was good to hear what others are doing. Got some ideas around programming for math.
- What others are doing.
- The discussions.
- Staying together as group.
- I really liked that we all stayed in one group and did not break out into separate sessions.
- Opportunities to share and learn about different models and approaches.
- Hearing about the design of summer bridge.
- Hearing about funding/stipends.
- Discussing assessment.
- Developing thoughts about tailoring our on-campus tracking and evaluation.
- Sense of budget.
- New ideas about how to approach recruitment and bridge program.
- Cross-cutting topics (recruiting, dev math, sustainability).
- Getting ideas for improving/refining SSA initiatives.
- Refocusing goals/efforts of our SSA initiatives.
- Clarified cross-cutting goals across diverse statewide programs.
- David's facilitation of the meeting. He asked people to talk about their program elements and asked follow-up questions in a way that gave us a common understanding of of all our programs.
- Good central location.
- Table set up.

4. **What are your key takeaways from this gathering? How will it affect your work?**

- New or different strategies to incorporate in our SSA work plan.
- Made me think more broadly about how and what additional data our program will begin to capture.
- There is no one-size-fits-all. Difficult to agree on best practices.
- The math strategies.
- Ideas for future recruitment and tracking.
- Need to think about measures of success.
- Data reporting – need to identify common measures.
- SSA is dynamic and evolving.
- Concerns about how differently we are all defining "primary participants", "secondary participants", and "STEM Starter Academy" and how erroneously data bins are presented to the powers that be.
- Good ideas about how to tweak and improve our program.
- Better definition of STEM Starter.
- Broader understanding of what everyone did.
- Change my recruitment approach.
- Constructing a narrative of what SSA is and does.
- How other campuses are partnering with industry.
- How other campuses do STEM advising.

- The lack of definition of the purpose/goals of SSA at beginning of grant made for some inconsistencies of how money was used. This will likely force us to reflect and refocus our programs and targeted outcomes.
- Need for industry engagement.
- Need to track data as vigorously as we can, as students continue beyond STEM Starter.
- There are very different approaches to the SSA.
- Definitely view the importance of testing at college level math differently than most other CC.
- Will consider/contemplate sustainability and financial assistance/stipend.
- Ideas on data collection, Summer Bridge (if funded in FY16).

5. **What are the outstanding questions with which you are leaving this gathering?**

- Need for better definition of SSA purpose, goals, and measurement. My guess is that we will continue this discussion.
- How to pay for this when the funding ends.
- Will we be funded FY16.
- How can we improve consistency.
- How can we improve data collection.
- What components of SSA might we sustain should funding be cut?
- How shall we define success for SSA participants?
- What Jeremiah was talking about – we need to precisely define and agree upon what we are trying to do if we are to measure it.
- Will I have a job come September? I felt the way the conversation casually talked about how some people's positions would be affected if this grant were not renewed was more series than the tone in which it was discussed.
- Budget?
- What are our points of focus in terms of gathering data that assess success of our initiatives at our school.
- Long term work necessary to gather impact data is a major concern (e.g. feasibility).
- Questions related to four above.
- Consistency across all the community colleges. Very different approaches which could be problematic in trying to "sell" one model.
- Do we look at other ways to sustain this program?
- Industry connections

6. **Please share any suggestions you have for how we can improve future gatherings.**

- Some small group discussions may have been useful.
- Have recommendations to discuss or adopt/modify, "these are the suggested end points to define success."
- Have another meeting over the summer.
- More than 1 per year? An early planning and post-summer decompression.
- Small group discussion would have been helpful.
- It was good to hear from the large group, but smaller breakout sessions would have facilitated greater exchange of ideas in smaller group exchanges.
- More time for networking with other campuses.
- Have subgroup meetings/discussions for certain issues (e.g. summer bridges, recruitment, assessment, sustainability, etc.) to continue conversations in greater depth.
- Very effective, well-facilitated.
- N/A – well done.

SSA Grantee Phone Meetings Summary

SSA grantees participated in seven hour-long conference calls between January and September 2015. The purpose of these calls was to share learning across sites, begin to outline a more uniform "model" of SSA implementation across sites, and disseminate information about budgeting and other implementation logistics. SSA coordinators or administrators joined the calls, which were facilitated by David Cedrone through April and by Allison Scheff thereafter. The primary topics of these calls were FY16 budget information, SSA Year 3 planning, and discussions around SSA "model" elements and measurement. See the table below for a list of topics by meeting. Grantees also met in person once, on March 30, for an all-day "technical assistance" gathering (see SSA Grantee Gathering Feedback section in the main body of this report).

In addition to these eight all-site meetings, three SSA Working Groups (Measurement, Model, and Sustainability) began phone meetings in May, facilitated by Allison Scheff of DHE. The sustainability group discussed the sustainability of various elements of currently implemented SSA programs but decided to reconvene after a set of cross-campus "model" elements had been developed by the other two working groups. The Measurement and Model Working Groups focused on refining definitions, flagging elements as candidates for a cross-campus SSA "model," and strategies for measuring those elements. At a joint, in-person meeting in July 2015, the Measurement and Model groups, along with some campus representatives from offices of institutional research, reviewed and refined the emerging model elements and strategies for measuring them. Based on these various discussions, Allison Scheff drafted a "design document" that was sent to all sites for review and comment in early August.

UMDI evaluators participated in the Measurement Working Group meetings and observed the Model and Sustainability Working Group meetings. Our observations resulted in a few notable findings. First, we noted the value of Allison Scheff's strategic facilitation of the Model Working Group in helping that group make decisions. A key issue hindering the identification of "model elements" at the initial meeting was a lack of clarity around the level of specificity of those elements. A focus on specific practices led site representatives to worry about how much flexibility they would have in implementation. At the second meeting, as the group discussed SSA activities included in the UMDI Year 1 Evaluation Report, Allison decided which activities were "model elements" and which were "promising practices" (to be nested below model elements). Although these distinctions were not well defined, this form of facilitation allowed the group to move forward by keeping the discussion at a more general level, which created space for differentiation between sites.

UMDI's analysis of these meetings revealed that sites are not consistently defining the idea of a student "cohort." SSA grantees seem to use the term "cohort" to refer to both a socially-connected group and also to any group of students who started their participation in SSA at the same time, regardless of if they have any social connection.

Date	Topics Discussed	Notes
1-22-2015	• FY14 site reports • FY14 DHE report to the legislature on SSA • In-person "Implementation Meeting" planning	Sites provided feedback on topics for conversation at the meeting.
3-12-2015	• FY16 budget update • DHE Year 1 report on SSA and issues around measuring and describing success • March 30 "Technical Assistance" gathering • Discussion of advanced manufacturing	David notes that report was delayed in being released partly because of an internal review process.
3-30-2015	In-person "Technical Assistance" gathering	Extensive discussions of target

	• Recruiting methods and populations • Approaches to mathematics • Evaluation and measurement • Sustainability • Career preparation • Financial supports • Curriculum • Faculty professional development	populations for recruitment, measuring and defining a common SSA approach to mathematics interventions, and appropriate measures for evaluating and presenting a narrative about the initiative more broadly.
4-16-2015	• FY16 budget updates • Introducing Allison Scheff's new role in SSA • Follow-up to March 30 meeting • Planning for FY16 • Working group formation and activation	
5-16-2015	Measurement working group meeting • Defining primary and secondary participants • Campus priorities for data collection	
5-20-2015	Sustainability working group meeting • More and less sustainable elements; candidates for internal or external funding • Data needs to support sustainability of SSA • Group products and process	
5-20-2015	Model working group meeting • Definitions: STEM fields, purpose of SSA, target participants of SSA • Potential SSA model elements	
5-21-2015	• Budgeting FY14, FY15, FY16 with Sheila Tunney • Working groups updates: Measurement, Sustainability, and Model working groups. • Request for summer schedules • Year 3 planning materials and structure discussion	Aside from discussion of the actual instruments, the Year 3 planning discussion focused on defining "cohort."
5-29-2015	Model working group meeting • Populations • Review of activities captured in Year 1 evaluation report	
6-24-2015	Measurement working group meeting • Discussion of measurement based on draft "model" • Populations: high school students, dual enrollment students • Success metrics • Exit survey	
6-25-2015	• Summer program sharing and updates • Evaluation updates, including discussion of participant exit survey • Discussion of draft SSA model	Discussion of the draft SSA model focused on specifying target populations for SSA interventions.
7-29-2015	Joint Measurement-Model group meeting • Using model and measurement to plan for FY16 • Feedback from campus IR representatives • Defining SSA participants and impacts	

	• Measurement at the local level • Exit survey • Review of original legislative language • Target populations: high school students, dual enrollment students	
8-19-2015	• FY16 budget development: TRAIN grant • Summer program sharing and updates • Year 3 planning ($250k budget per campus), including "reverse engineering" document and further discussion of an exit interview • FY16 budgeting timelines	Allison sent an SSA "design document" to sites on 8/7, requesting feedback by 8/14 and asking that sites' FY16 budgets reflect the elements in that document.
9-18-2015	• Feedback on Year 3 plans & planning process • Distributing FY16 funding • Discussion of adding developmental mathematics metrics to SSA evaluation • Sharing summer successes or transition to fall • Fall retreat planning	