STEM STARTER ACADEMY: A UNIFIED APPROACH TO BUILDING CAPACITY
A Proposal Submitted by the 15 Massachusetts Community Colleges

Goal: The 15 Massachusetts community colleges join in common purpose to build, enhance, and sustain institutional capacity to graduate a greater number of students from associate or certificate Science, Technology, Engineering, and Math (STEM) programs leading to job placements, and/or transfer to bachelor degree STEM programs.

Approach: A focus on capacity-building is a deliberate way to assure longevity of effort. By seeking to expand what works, filling in the gaps, and sharing learning and effort, not just on individual campuses, but as an intentional alliance, the 15 colleges' unified capacity-building not only assures a solid foundation on which to grow, it contributes to savings in time, effort, and resources. It is with this mindfulness that the colleges approach this joint project.

Responding to the Department of Higher Education's (DHE) directive to "inform, engage, recruit, retain and graduate significantly more students and enhance their success in STEM pathway programs," [RFP, pg. 4] the colleges propose a three-phase effort with Phase One being the focus of this proposal. Phase One will include three parts:

1. Recruitment of students through awareness building and outreach – Spring 2014
2. College readiness and STEM career and academic program exploration through summer programs – Summer 2014
3. Transition to college through enhanced student supports – Fall 2014

The colleges hope to be able to expand upon the work launched in Phase One to see participants through to completion. Pending future funding from DHE, Phases Two and Three will address degree completion and job placement/transfer, respectively.

Through informed and deliberate planning, well-defined career pathways, up-to-date and creative curricula, relevant technology and equipment, skilled educators, concentrated attention to the needs of students, and the sharing among the colleges of best practices, all 15 colleges will:

- Get students interested.
- Get students excited.
- Get students college-ready.
- Get students successfully started.
- Get students their diploma!

Target Populations: Each of the 15 colleges has indicated its target populations for this effort, as well as the number of students served on the STEM Starter Academy Target Populations chart found in Appendix A on page 7. Number of students served has been divided into two parts: 1) students targeted for primary activities and 2) students who will be impacted secondarily through one-time events such as open houses, STEM career fairs, STEM speakers, and STEM exploration events.

Background: In 2009, by establishing the Governor's STEM Advisory Council, Governor Patrick set into motion a series of thoughtful investments in STEM research, education, and job and workforce development. The establishment of this Council and subsequent related actions, such as the STEM Pipeline Initiative, demonstrate the Commonwealth's insights of and commitment to a national need for more people to obtain the education and training necessary to meet STEM workforce needs.

At the national level, the President's Council of Advisors on Science and Technology (2012) laid out the urgent need for an increased STEM workforce in the opening remarks of its report to the President, "Economic projections point to a need for approximately 1 million more STEM

professionals than the U.S. will produce at the current rate over the next decade if the country is to retain its historical preeminence in science and technology. To meet this goal, the United States will need to increase the number of students who receive undergraduate STEM degrees by about 34% annually over current rates."

It is no secret that the country needs to invest time, effort, and resources into finding, retaining, and successfully educating these additional STEM degree-seeking students. The needed numbers suggest, however, that an expanded view of who these additional students could be is warranted. Not to tap into every available pool of potential talent does the country a disservice and limits opportunity for all.

The Massachusetts community colleges are particularly well-positioned to reach out to students from groups underrepresented in STEM and to those students who do not yet see themselves as the scientists, technicians, engineers, or mathematicians of tomorrow. Proposed project objectives and activities speak to cultivating these students.

Project objectives and activities also echo the themes and goals of the recently-released report of the Governor's STEM Advisory Council, *A Foundation for the Future: Massachusetts' Plan for Excellence in STEM Education, Version 2.0: Expanding the Pipeline for All*. This report articulates four primary themes that describe the intent of the STEM Starter Academy project, and thus, the colleges' collaboration:

1. Reduction of achievement, interest, and skills gaps.
2. Continued focus on creating and maintaining a skilled STEM educator workforce.
3. Explore diverse and innovative instructional strategies to promote the teaching and learning of STEM.
4. Increasing scale of programs across the Commonwealth.

The *Expanding the Pipeline for All* report goes on to present five goals by which the themes will be achieved:

1. Increase student interest in STEM areas.
2. Increase student achievement among all Pre K–12 students in order to prepare graduates to be civically and college and/or career ready.
3. Increase the percentage of skilled educators who teach Pre K–16 STEM.
4. Increase the percent of students completing postsecondary degrees or certificates in STEM subjects.
5. STEM degrees and certificate attainment will be aligned with corresponding opportunity in STEM-related fields to match the state's workforce needs for a STEM talent pipeline.

Four of the five goals will be addressed in Phase One of this project; goal #4 – completion – will be addressed in Phase Two. Please see the Project Activities section of this proposal and accompanying Appendix B: STEM Starter Academy Activity chart on page 8 for greater detail.

Foundations *(Building on Current Work and Relationships)*: For purposes of meeting the goals of the STEM Starter Academy, the community college collaboration draws upon the experiences of prior all-college and regional collaborations, as well as upon individual college work, expertise, and best practices in college readiness and STEM teaching and learning.

The most recent and notable collaborative effort of all 15 colleges is the US Department of Labor-funded Transformation Agenda project. Through this major venture, the colleges have established new ways of interacting, information-sharing, and problem-solving. Work done in this project, such as contextualized learning, has relevance to the work proposed herein. Where applicable, the colleges will draw upon the processes and products of the Transformation Agenda.

Another valuable resource on which to draw includes the many STEM-related or college readiness-related grant-funded projects run by individual colleges, such as those funded by the National Science Foundation programs: Advanced Technological Education (ATE), Informal STEM Education (ISE), Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM), and Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES). Also of note are grants from the US Department of Education, such as the Upward Bound Math and Science and Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP). Projects receiving Massachusetts funding such as the DHE's STEM Pipeline Fund, Massachusetts College Access Challenge Grant, and the Vision Project's Performance Incentive Fund also provide useful groundwork for this project. Achieving the Dream grants, establishing the practice of data-driven decision-making, also form a basis for project activity choices.

The collaboration also will build on synergistic industry relationships that have been cultivated throughout each college's history. Industry colleagues sit on college advisory boards, engage in curriculum development, offer hands-on opportunities and mentoring to students, and participate in career fairs. They will remain important partners in this effort.

Objectives and Outcomes: The RFP cites a Student Success Model (pp. 5 & 6) that guides this project's capacity-building approach; the colleges will use this model for their project objectives. While all colleges' activities are tied to one or more of these four objectives, project activity at each college will be individualized to that college's specific needs. Because of this specificity of project activities, individual colleges will work with the Donahue Institute to establish outcome measures appropriate to their chosen set of activities, targeted population, and relevant college data. The outcomes listed in the chart below are therefore broadly stated. For example, while all colleges aspire to performance increases, the precise measure of an "increase" will be determined for each college.

For the purpose of this grant, the baseline performance considered will be the prior year for institutions where similar programs have been offered previously. For institutions with no prior similar programs, the baseline performance will be continuation in a sequence of interventions related to STEM Starter Academy effort, or matriculation into a STEM discipline, or retention. We expect increases from the baseline to be statistically significant both in the aggregate and for sub-groups of interest (e.g., females, under-represented minorities) where the total population size allows. In future phases of this intervention, the colleges will articulate specific growth targets in enrollment, graduation, and job placement.

Objectives	Outcomes
1. Increased student awareness of and access to STEM programs of study and career opportunities	▪ An increase in the number of students who are exposed to and have explored STEM career choices and STEM academic program choices ▪ An increase in the number of high school students enrolled in STEM dual enrollment courses ▪ An increase in high school student enrollment in summer STEM programs
2. Enhanced student readiness for and recruiting into STEM pathway programs	▪ The majority of students in summer STEM programs complete compressed/accelerated developmental instruction ▪ A higher college-level math placement rate for STEM Starter Academy participants compared to similar control group ▪ More STEM Starter Academy participants place in a higher-level developmental course compared to similar control group

	▪ The majority of students complete college success course ▪ Students in summer STEM programs subsequently matriculate into a STEM program in the fall ▪ An increase in the number of students who choose STEM gateway courses ▪ An increase in the number of students who enroll in STEM programs
3. Improved student <u>retention</u> based on academic success and overcoming "life barriers"	▪ Statistically higher retention rates for STEM Starter Academy students compared to a comparable group of students who have not yet declared a major
4. Increased <u>completion</u> through award of certificates or degrees and pathways to STEM jobs or transfer to higher level STEM academic programs.	To be addressed more fully in Phases Two & Three.

Project Activities: Activities proposed herein will focus on foundational steps intended to lay solid groundwork on which to build a steadily-flowing pipeline of students pursuing, persisting in, and completing STEM certificate and degree programs.

The ultimate goal of increased graduation rates in STEM programs relies on multiple preliminary steps. These steps are captured in an Activity Chart (Appendix A), which indicates each college's intended activities toward STEM Starter Academy goals. This chart represents both activities that would be undertaken with STEM Starter Academy grant monies, as well as those activities funded by other external fundraising or by college funds. The chart is arranged by the three action areas of Phase One, correlated with Spring Semester 2014, Summer Programs 2014, and Fall Semester 2014.

Individual college plans are based upon an assessment of curriculum, student support services, and infrastructure gaps and an acknowledgement of strengths. Two broad questions, as listed below, guide the thinking in formulating college plans.

1. <u>How does a college get students interested in and selecting STEM careers and related academic programs?</u>

Studies indicate that college retention and completion is improved when academic program selection is made early in a student's college career, especially for first-generation college students. Therefore, our students are better served by intensive career and academic program selection in the early stages of their college experience.

In order to make that selection, students and potential students need exploration of, exposure to, and experience in STEM career fields and their related academic programs. Therefore, many of the colleges' project plans include career awareness, career exposure, hands-on experiences, career counseling, guidance on the relationship of careers to academic programs, and providing students with clarity on direction through defined STEM pathways.

An additional essential element to effective recruiting for STEM programs and careers is to reduce the fear of math and instill, instead, the confidence in one's ability to acquire increased math skills necessary to pursue a STEM program and career.

While awareness-building and career and academic program advising are vital to effective recruitment, outreach is an essential first step to getting prospective STEM students to engage in those activities. Colleges will deliver a robust outreach effort to a variety of audiences:

- High school students, their parents, guidance counselors, faculty, and principals
- First-year students with developmental math placements
- Current, undeclared students
- Adult learners, veterans, and other nontraditional populations
- Populations that are under-represented in STEM career fields

Colleges will be using a variety of marketing approaches to communicate the desirability and availability of STEM education and training. Some will use more traditional methods, such as visits to area high schools and vocational technical schools. Others may be using advertising methods associated with the business community. In addition, outreach will be conducted indirectly by opening STEM events to the entire college, and in some cases, the community. If these events are sufficiently inspiring, colleges may find that secondary populations decide to come over to the STEM side.

2. <u>How do you help students to have a positive STEM-entry, be successful in their first STEM-semester, and continue to embrace their choice in the STEM program?</u>

In order for a student to maintain a STEM-positive outlook, he or she must maintain both confidence and interest. Thus, to gain and sustain confidence, project activity is highly focused on providing students with college-readiness teaching and coaching, strong student support services, supplemental instruction, and opportunities to be academically successful. To keep student interest kindled, project activity is immersed in continued career exposure, building a sense of STEM community among the students, STEM-focused student activities and events, and industry interactions, with both people and places.

A strong presence of and interaction with relevant industries is vital to making STEM fields attractive to students. Degree and certificate alignment to workforce needs has long been a practice of community colleges. Many of us have industry representation on our program advisory boards and industry-informed technical program curriculum. Several of our campuses will be contextualizing developmental math and English and college success courses by inserting career and workplace realities into standard courses. There has been some activity within the Transformation Agenda grant toward this end and the colleges will build on that. Industry participation in the way of speakers, mentors, tutors, field trips, internships, is also part of the project plan.

<u>Resource Investment:</u> In addition to the student-centered activities cited above and in the Activities Chart, colleges also wish to invest in resources that are necessary in order to deliver those student-centered activities. Capacity-building resources include:

- Skilled Educators and Advisors – e.g., professional development for faculty and staff
- Infrastructure – e.g., instructional technology and software, lab updates
- Recruitment material – e.g., development of career pathway maps, academic program brochures, websites, videos, resource centers
- Online course development and delivery

<u>Best Practices Exchange:</u> Another resource for capacity-building is to learn from others, and benefit from the work that they have already done. To that end, the project will establish a best practices exchange. College presidents, chief academic officers, and chief student affairs officers will lead their colleges in determining exchange opportunities and participation. The Activity Chart provided herein is a good start. As an inventory of common activities, each college can use it to see which colleges are pursuing an activity in which it already has some

experience and expertise and which colleges are pursuing a similar course of action. There may be some resource savings – both human and financial – derived from joint efforts.

A best practices exchange provides another kind of opportunity for colleges to determine how they can optimally support their students. It would allow for each college to not just learn specific intervention techniques from one another, but to explore matters on a larger campus scale – e.g., how seemingly separate functions and activities on a campus could work in tandem with others – and to discover alignment among all the colleges' approaches and innovations when dealing with commonly-experienced trials, such as the frequency of need for developmental education and its overly drawn-out sequence.

Evaluation: The colleges acknowledge that the activities funded by the STEM Starter Academy grant will be formally evaluated by the University of Massachusetts Donahue Institute and they will work with the Institute toward that end. Initial discussions with Donahue will involve collaboration with the colleges' Institutional Research staff to develop a common and uniform set of outcome measures, related to grant-funded activity, that are both possible and informative. For example, all colleges would need to determine what constitutes a STEM course or a STEM program in a consistent way.

In addition to an overall, evaluation, each college will work with the Donahue Institute on outcome measures specific to the grant-funded work proposed by that college. Where appropriate, the colleges will utilize the existing Vision Project goals as a framework for determining outcome measures for this project. All 15 colleges will complete a fiscal year-end progress report to provide the data and information necessary to produce a project report for the Massachusetts Legislature, and in it will project anticipated outcomes from the planned summer and fall STEM Starter Academy activities.

Sustainability: Sustainability for a capacity-building grant does not mean that the colleges need to expend the same amount of dollars to maintain the grant-funded activity. Because capacity-building grants often consist of one-time actions, such as curriculum development, or faculty and staff professional development, and/or one-time investments, such as equipment, computers, and software purchases, the action or investment does not need to be repeated. That is the beauty of these type of grants – the intention is to give the grantee the opportunity to take steps to better function and serve its constituency and, once those steps are taken, it is positioned to continually meet its goals without the on-going initial cost of the capacity-building.

Grants also enable a college to experiment – to try a new approach to meeting student needs without having to expend daily operating monies. A capacity-building grant provides a college with data to make decisions about reallocating college resources, both financial and human. Once a pilot is determined to be effective, colleges can use existing operating monies to replace the old approach with the new.

The colleges' experience with institutionalizing staff positions shows precedence for keeping that which is working. If the expansion of the STEM-related student support services initiatives proves to be as effective as expected, the colleges will reallocate or generate the necessary resources to sustain them.

By having a strong Best Practices exchange network, colleges can gain useful information from their peers about effective techniques and programs, thereby reducing costs and duplicative efforts. Other potential sources of income include income from a higher retention rate and the Massachusetts High Demand Scholarship Program.

In addition to individual college grantseeking, the presidents of the 15 community colleges have recently committed to hiring a grant developer/writer for proposals involving all the colleges.

This collaboration will lay the groundwork for future joint STEM-related grant proposals. Because great emphasis has been placed by governmental and industrial leaders on the importance of building a well-educated and well-trained STEM workforce, both public and private grantmakers have shown high interest in funding programs that support that goal.

The college presidents are committed to sustaining that which achieves STEM graduation goals, whether it be by reducing costs, sharing resources, reallocating funds, or seeking additional funding.

APPENDIX A: STEM STARTER ACADEMY TARGET POPULATIONS CHART – 2014

TARGET POPULATIONS	Berk-shire	Bris-tol	BH CC	CC CC	GCC	HCC	MB CC	Massa-soit	Middle-sex	MW CC	NS CC	NE CC	QCC	RCC	ST CC	
Traditional students	x	x	x	x	x	x	x	x	x	x	x	x	x		x	
Adult learners		x	x			x	x		x	x		x	x		x	
Middle and/or high school students, including dual enrolled	x	x		x	x	x	x	x	x	x	x	x	x	x	x	
New incoming students	x	x	x	x	x	x	x	x	x	x		x	x		x	
First-year students with developmental math placements	x	x	x		x	x	x	x	x	x		x	x		x	
Current undeclared students		x	x				x		x	x		x			x	
Incoming or current students in STEM programs	x	x	x	x	x	x	x		x	x	x	x			x	
Under-represented populations within STEM	x	x	x	x		x	x		x	x	x	x	x	x	x	
NUMBER OF STUDENTS																**TOT-ALS**
Targeted for primary activities	**30**	**210**	**60-80**	**30**	**130**	**100**	**120**	**120**	**122**	**85**	**40**	**100**	**50**	**25**	**60**	**1302**
Impacted secondarily, e.g., open houses, STEM career fairs, STEM speakers, STEM exploration events	**500**	**500**	**250**	**500**	**600**	**350**	**250-300**	**300**	**700**	**500**	**150**	**250**	**350**	**200**	**250-300**	**5750**

APPENDIX B: STEM STARTER ACADEMY ACTIVITY CHART – 2014

This chart represents all STEM Starter Academy activities proposed by this project, as well as related STEM outreach, recruitment, career and academic program exploration, college-readiness, student support, and teaching and learning activities that are aligned with the STEM Starter Academy, but funded by other external fundraising or by college funds.

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
AWARENESS BUILDING, OUTREACH, & RECRUITMENT Spring 2014															
STEM Career & Program Exploration															
Development of and use of STEM career & academic programs materials	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Middle/ high school outreach and recruiting – students, parents, guidance counselors, faculty, principals	x	x			x	x	x	x	x	x	x	x	x	x	x
Current students outreach and recruiting	x	x	x		x	x	x	x	x	x		x	x		x
Adult learner, veteran, and other population outreach and recruiting		x	x		x	x	x		x	x		x	x		x
Work with industry and alums on recruitment to STEM programs	x	x										x	x	x	x
STEM information sessions/career events	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
STEM hands-on experiences		x		x	x		x		x	x		x	x		x
Interest inventory									x					x	
Field trips & speakers		x	x	x	x		x	x	x	x		x	x		
Academic Programs															
Development of STEM pathways		x			x	x	x	x	x	x	x	x	x		x

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
STEM Dual Enrollment	x	x		x	x	x	x	x	x	x	x		x		x
Self-paced math courses at high schools								x		x			x		
"Intro to" credit courses		x			x				x			x	x		
STEM-based College Success course		x				x			x	x		x	x		
Curriculum development/revision	x	x	x		x	x	x	x	x	x	x	x	x	x	x
Collaborative learning		x					x		x	x		x			
Research experience		x					x		x						
Student Support Services															
STEM career and academic programs advising	x	x	x		x	x	x	x	x	x	x	x	x		x
Success Coach		x	x					x	x		x	x			x
Peer advising			x									x			
Early Accuplacer	x	x			x	x		x	x	x		x	x	x	
Enrollment incentives									x	x	x		x		
Planning, Professional Development, & Infrastructure Enhancements															
Planning for summer and/or fall program and activities	x	x	x	x		x	x	x	x	x		x	x	x	x
STEM advisory group convened		x		x		x			x			x	x		x
Prof. dev. for K-12 teachers and/or college faculty		x		x	x		x	x	x	x	x	x	x		
Build STEM Network website/resource center				x			x								
Build video conferencing capacity				x											
Development of math lab		x			x		x	x				x	x		

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
Obtain career focus, simulation, and other software			x				x		x				x	x	
Best Practices exchanges (throughout the project)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
SUMMER STEM STARTER ACADEMY PROGRAM Summer 2014															
STEM Career & Program Exploration															
Summer Interest Program	x		x	x	x	x	x	x	x	x	x	x	x		x
STEM hands-on experiences	x			x	x	x	x	x	x	x		x	x	x	x
Field trips, speakers	x		x	x		x	x	x	x	x		x	x		x
Student access to career exploration software	x	x	x		x	x		x	x	x		x	x		
Internship for the trades		x			x					x			x	x	
Summer Readiness Program															
Refresher courses before placement test/Math Boot Camp	x	x		x				x	x	x	x	x	x	x	x
Other boot camps	x				x			x		x			x	x	
Pre-Post Accuplacer Testing	x	x	x	x		x			x	x		x	x	x	x
Placement re-testing	x	x		x	x	x		x	x	x			x	x	x
Developmental math – STEM-contextualized, STEM project-based learning, self-paced math learning with faculty/embedded tutor supports, online	x	x	x		x	x	x	x		x		x	x		x
College Success Skills workshops/course	x	x	x	x	x	x	x	x	x	x		x	x		x

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
Academic Programs															
Development of STEM pathways		x			x	x	x	x	x	x	x	x	x		
STEM Dual Enrollment		x		x		x	x			x	x		x		
"Intro to" credit courses		x	x				x					x	x		x
STEM-based College Success course	x	x	x				x		x	x		x	x		x
STEM gateway courses	x	x	x	x	x	x	x		x	x	x				x
Curriculum development/revision	x	x			x	x	x	x	x	x		x	x		x
Collaborative learning		x	x			x	x		x	x		x			x
Research experience							x	x	x						
Student Support Services															
STEM career and academic programs advising	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Success Coaches		x	x				x		x			x		x	x
Professional tutoring, mentoring	x	x	x	x	x	x	x	x	x	x		x		x	x
Peer advising/mentoring			x	x		x	x		x	x		x		x	
Student orientation with STEM enhancements	x	x	x			x			x	x	x		x	x	x
Books, supplies, etc.	x	x	x	x		x	x		x	x		x	x	x	x
Financial aid assistance		x	x		x	x	x	x	x	x			x		x
Enrollment Incentives	x		x		x	x			x	x	x		x	x	x
Planning, Professional Development, & Infrastructure Enhancements															
Prof. dev. for STEM faculty advisors	x	x		x			x	x			x				
Improved equipment to aid mobility of staff	x						x		x				x		

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
ENHANCED TRANSITION TO COLLEGE FALL 2014															
STEM Career & Program Exploration															
Awareness & recruiting	x	x		x	x	x	x	x	x	x		x		x	x
STEM information sessions/career events	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Field trips, speakers		x	x	x	x		x	x	x	x		x			x
Job shadowing, industry mentors, internships		x	x		x		x		x	x			x		
First Year Experience in STEM – Academic Programs															
Development of STEM pathways		x			x	x	x	x	x	x	x	x	x		
STEM Dual Enrollment	x	x		x	x	x	x	x	x	x	x		x		x
"Intro to" credit courses		x	x			x			x			x	x		x
STEM-based College Success course		x							x			x	x	x	x
STEM gateway courses	x	x	x	x	x		x		x	x			x		x
Align STEM gateway courses with STEM College Success Seminar courses		x											x		x
STEM gateway and other courses with supplemental instruction		x	x	x			x		x	x	x	x			x
STEM-contextualized, accelerated learning Comp 1 course		x													x
Enhancement of Engineering instruction		x		x	x		x	x				x			
Collaborative learning		x	x		x	x	x	x	x	x		x			x
Research experience		x							x						

	Berk-shire	Bristol	BHCC	CCCC	GCC	HCC	MBCC	Massa-soit	Middle-sex	MWCC	NSCC	NECC	QCC	RCC	STCC
First Year Experience in STEM – Student Support Services															
STEM career and academic programs advising	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Success Coaches		x	x						x			x		x	x
Professional tutoring, mentoring	x	x	x	x	x	x	x	x	x	x				x	x
Peer tutoring/advising		x	x		x	x		x	x		x	x		x	
STEM student clubs		x	x		x		x	x	x	x			x		
Enrollment Incentives	x		x	x		x			x	x	x		x		
Planning, Professional Development, & Infrastructure Enhancements															
Prof. dev. of faculty & staff		x		x	x		x	x	x		x	x			
Infrastructural support of online STEM course delivery		x			x		x						x		
Equipment and lab upgrades	x	x			x	x	x				x	x	x	x	