STEM-Tech

Career Academy
Grant Informational Session

October 28, 2022

Agenda

- Welcome and Housekeeping
- Overview of STEM TECH Career Academy
- Grant Timelines and Funding Model
- Exploration Grant
- Question and Answers

Housekeeping

- We will **email a copy of the presentation to registrants** following today's session. It will include a resources page of link to relevant information. **Today's session is being recorded** and we will provide a link with the passcode.

- Please note the RFP is posted on CommBuys and includes three document narrative, budgets and **grant timeline**. https://www.commbuys.com/bso/external/bidDetail.sdo?docId=BD-23-1036-EDU01-EDUA1-80935&external=true&parentUrl=close

- **Please use the Q and A** tool post questions. We will strive to them answer during today's session. We are also are assembling a Q&A sheet that we will distribute.

- We will provide zoom **program design technical support office hours 12:30-2:00** on Wednesday Nov 2nd and Wednesday Nov 9th Links will be provide with the follow up email.

- Follow Up Contact: Robert LePage, Assistant Secretary Career Education - robert.lepage@mass.gov and Maggie Cicco EOE LEE Fellow - Maggie.Cicco@mass.gov

- **Your feedback requested during today's session**
  - *Would it be helpful for us to host a panel session on the topic of Work Based Learning / Internships the end of next week?*
  - *What other topic would be helpful for us to provide a panel session.*
  - *Based on today's session do you anticipate submitting a letter of interest?*

Our challenge

- ❑ STEM skills gaps continue to be a major short-term and long-term challenge to economic growth
- ❑ Even though voc-tech enrollment is growing, capacity is relatively limited (and expensive)
- ❑ Community college enrollment is shrinking, reducing the number of occupational degrees and certificates awarded
- ❑ Initial growth of Early College and Innovation Pathways is promising, but needs to be sustained and accelerated (more programs, larger scale)
- ❑ Employer engagement in STEM education is improving, but remains a challenge

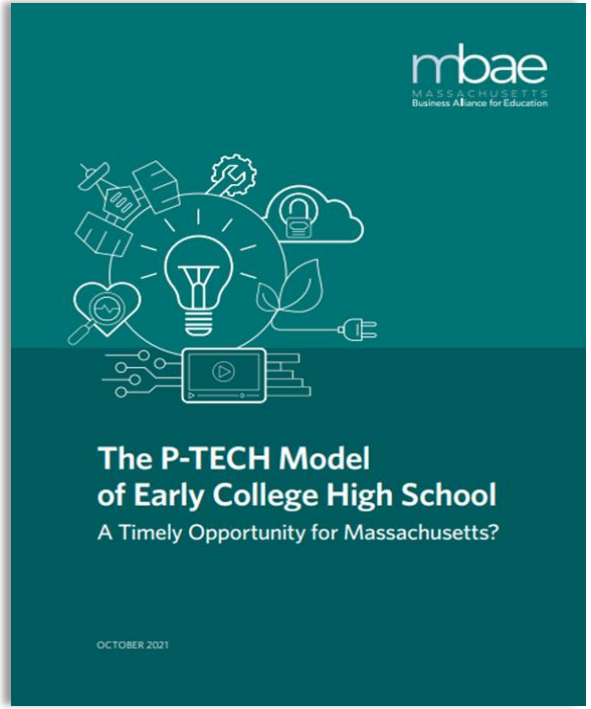
Commit multi-year resources, institutionalize internal systems and structures, broaden the portfolio of early college/career pathway models

Closing the STEM Skill Gap

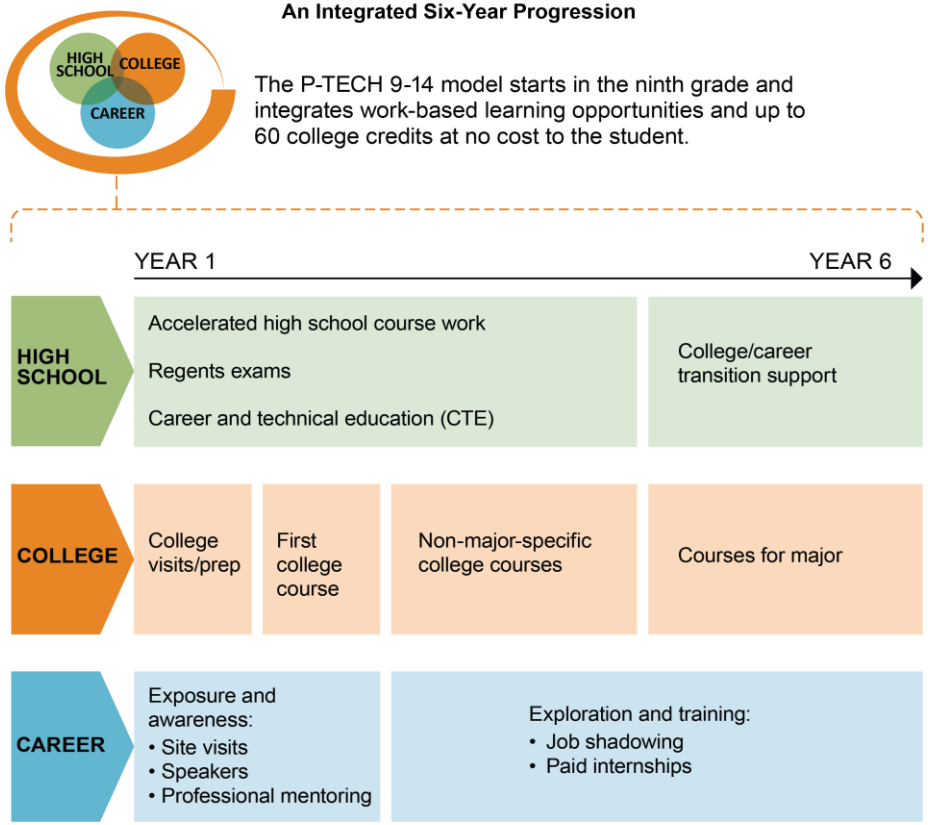
- **Credential Attainment Gaps:** Only 44% of ninth graders in Massachusetts go on to earn the post-secondary degree or credential that the vast majority of jobs in our state require, and the odds are even worse for students who have been historically under-represented in higher education and the workforce: only 26% of Black students, 18% of Latino students, and 23% of low-income students complete a post-secondary degree within six years of graduating high school. The rates are far lower in many of our Gateway cities that together with Boston educate nearly half of all low-income students in Massachusetts.

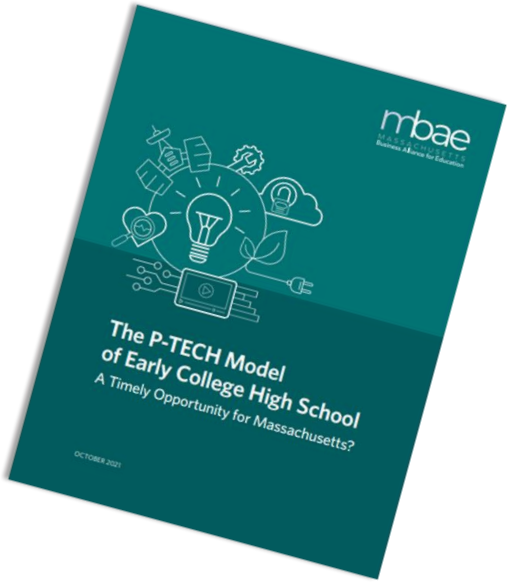
- **Wage and Diversity Gaps**: STEM jobs pay family-sustaining wages and offer career ladders for growth and advancement. Creating pathways to these opportunities for all students, but particularly for Black and Latino students who are under-represented in these fields, is essential to closing wage and wealth gaps that plague our society.

- **Income Gaps:** Rates of income inequality in Massachusetts, which have their roots in educational opportunity gaps, are also persistent and pervasive. Recent data show approximately a 2-1 gap between median income for whites in contrast to Black and Latino or Hispanic families.



P-TECH Model NY





206 High Schools in 10 States (including NY, CT, RI), since 2011

Exploration Grant Purpose

The purpose of this competitive grant is to provide significant **planning and support resources to innovative STEM Tech Career Academy models** that are proposing to significantly increase the number of students served throughout the Commonwealth through thoughtful high schools to post-secondary implementation plans **to achieve completion of an Associate's Degree** related to Workforce Skills Cabinet **priority industry sectors Healthcare, Information Technology, Manufacturing, Environmental and Life Science, and/or Business and Financial Services**.

High Priority: Given to applicants that are building STEM Associate Degree bridge programs from existing Innovation Pathways and/or Early College program including those in DESE pilot programs or in designation process.

Exploration Grant Timeline

Request for Proposals Released	On or about October 24, 2022
Informational Webinar for Applicant Guidance	October 28, 2022 - 9:30AM-11:00 AM Register in advance for this webinar: https://us02web.zoom.us/webinar/register/WN_sq-5uISyTc60rllfTEwiMA
Letter of Interest submitted by the lead applicant identifying the partner (s)	November 9, 2022 email title ATTN MA STEM TECH Letter of Intent (SCHOOL NAME) email to Robert.lepage@mass.gov CC Maggie.cicco@mass.gov
Proposals submitted through the online application system.	December 1, 2022 Link to be posted by EOE on November 15th .
Grant Awards Announcement	On or about December 21, 2022
Contract Start Date	December 30, 2022
Funding Disbursement	On a rolling basis, upon verification of approved submitted budgets/purchases
Contract End Date (assuming extensions based on meeting benchmarks)	June 2026

Five Program Guiding Principals

The Boards of Elementary and Secondary Education and Higher Education jointly approved five Guiding Principles for Early College and Innovation pathways that are also required for a STEM Career Academy to demonstrate in program design and implementation

EQUITABLE ACCESS

GUIDED ACADEMIC PATHWAYS

ENHANCED STUDENT SUPPORT

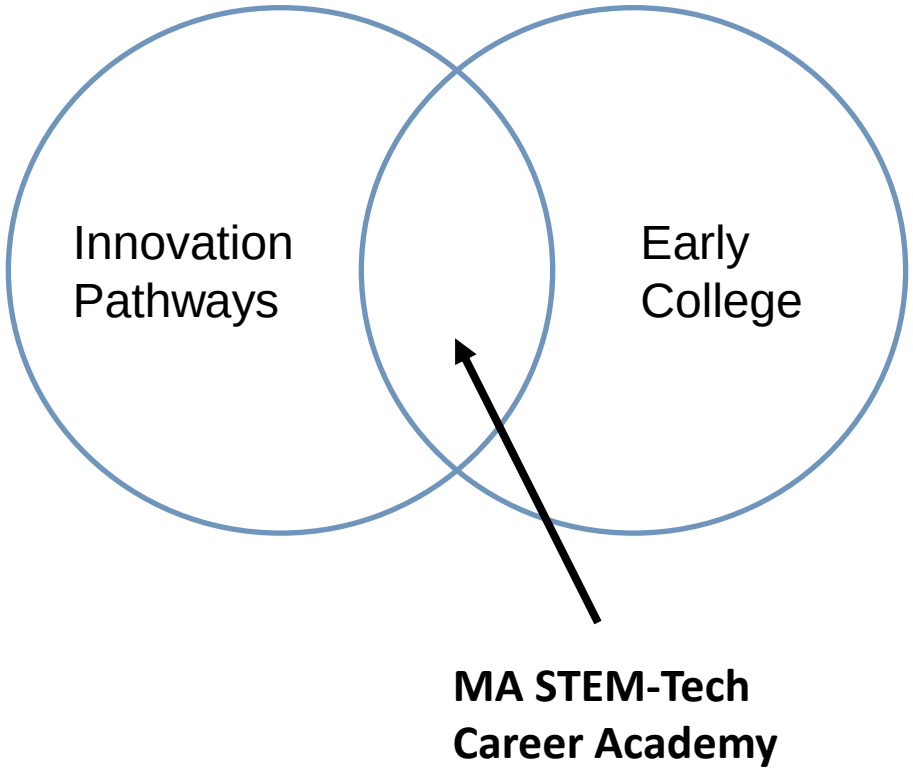
CONNECTION TO CAREER

EFFECTIVE PARTNERSHIPS

STEM-Tech Career Academy: Leveraging Existing Programs & Resources

- ❑ Joint DESE/DHE approval and oversight, based on Early College and Innovation Pathways process
- ❑ MyCap college and career advising
- ❑ Work-based learning collaboration through Connecting Activities, Youthworks, MA STEM@Work
- ❑ High school support through Dual Enrollment, Perkins, Early College, Innovation Pathways resources. College funding support from MassGrant/MassGrant Plus (and possibly Pell Grants) or other state or federals resources.
- ❑ Alignment with STEM Starter Academies, SUCCESS, MassHire, and Apprenticeships
- ❑ Collaboration with MassHire system for employer outreach
- ❑ Technology and equipment funding through Skills Capital Grants

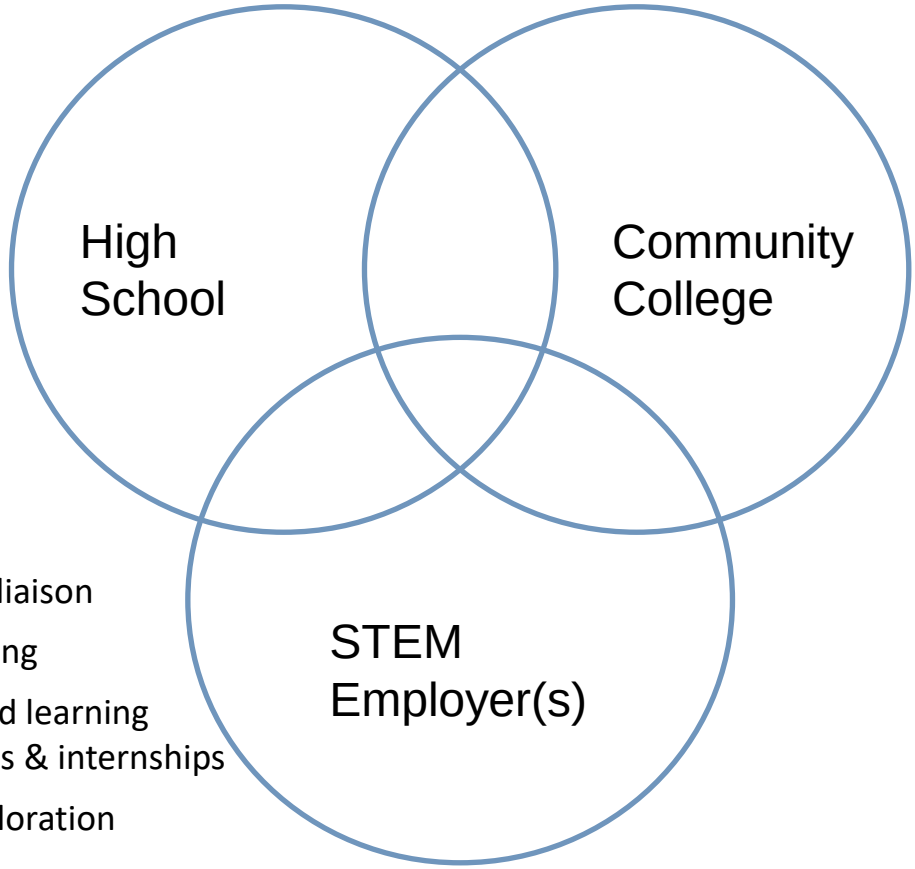
MA STEM-Tech Career Academy: Hybrid Pathway



- **Partnership** between school district, community college, and STEM employer(s).
- **Open equitable acess to enrollment** with focus on under-represented students.
- **Six-year student experience (**9-12th grade Diploma bridging to an Associate Degree (College Year 1 and Year 2)
- **Implementation** integrating high school and college coursework, linked to industry-developed skills map, leading to an industry-recognized associates degree or occupational certificate for all students.
- **Cost-free** postsecondary credential.
- **Meaningful scale**: ≥70+ students per graduating class
- **Workplace learning**, including mentoring, worksite visits, speakers, project days, and paid internships.

MA STEM-Tech Career Academy: 3-Way Partnership

- Dedicated leader & staff
- Open enrollment, with recruitment of under-represented students
- Integrated applied learning curriculum, aligned to college & industry standards
- Academic supports
- College/career counseling



- Dedicated program director/ High School liaison
- Faculty engagement with HS teachers
- No cost degree/certificate
- Degree/certificate programs aligned to industry pathways
- College readiness, wraparound and academic supports
- Academic/career counseling case management
- Potential alignment to 2-4 Year Baccalaureate pathways

- Dedicated liaison
- Skill-mapping
- Work-based learning experiences & internships
- Career exploration activities
- Mentors & volunteers
- Job placement support

MA STEM-Tech Career Academy: Example Credentials to be confirmed in Planning Phase

Information Technology Pathway

Integrated Media Design	**Associate in Science**
Visual Design	**Associate in Science**
Gaming/Computer Artist Track	**Associate in Science**
Computer Information Systems	**Associate in Arts**
Computer Science	**Associate in Arts**
Cybersecurity	**Associate in Science**
Gaming/Computer Programming	**Associate in Science**
Web Development	**Associate in Science**
Android Mobile App	*Technical Certificate*
Data Analytics	*Technical Certificate*
Data Management	*Technical Certificate*
Excel Applications Support Specialist	*Technical Certificate*
Health IT Systems Support	*Technical Certificate*
IT Support Certificate	*Technical Certificate*
Microsoft Applications Support Specialist	*Technical Certificate*
Mobile App Starter	*Technical Certificate*
Mobile App Starter Certificate: Apple Devices	*Technical Certificate*
Networking and Security Certificate	*Technical Certificate*
Object Oriented Computer Programming and Design	*Technical Certificate*
Web Development	*Technical Certificate*

Partner Employment Options

Environmental & Life Sciences Pathway

Chemistry	**Associate in Arts**
Biomedical Engineering	**Associate in Science**
Biological Sciences: Biotechnology	**Associate in Science**
Environmental Science	**Associate in Science**
Energy and Sustainability Management	*Technical Certificate*

Partner Employment Options

Student experience

High School

- Students take regular high school courses required to **earn a high school diploma by the end of 12th grade.**
- Students receive **individual support** and guidance via MyCap as they plan their high school years
- Student begin taking relevant sequence of **college level** classes including Math and English and technical courses infused with input from the employer designed to align with industry expectations about skills
- Students receive **mentoring** and **internship/workbased-learning** opportunities to prepare them for college and competitive careers in STEM fields.

College

- Students have the opportunity to **earn an Associate Degree** from the college partner—**at no cost**.
- Students are enrolled **as cohorts as they take college course of study specific courses** infused with input from the employer designed to align with industry expectations about skills
- Students are organized as a program cohort with staffing providing student success support, college and career advising, and work-based learning coordination.
- Students receive **mentoring** and college level **internship (preferred paid)** opportunities
- Students are prepared **prior to graduation,** to be employed at industry partners

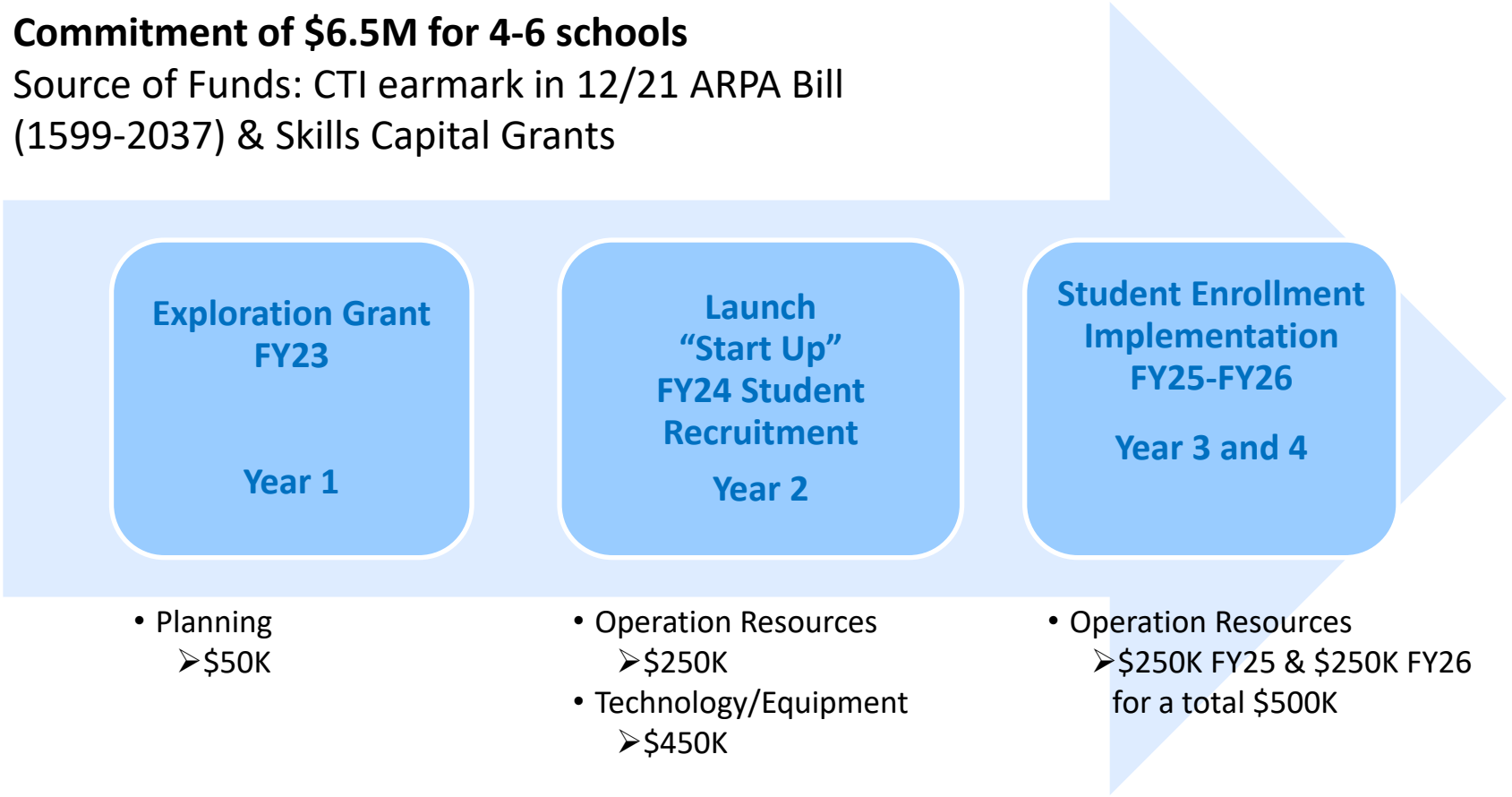
Industry

- Students participate in **real work experiences** in which they learn teamwork and develop the skills they'll need for professional and personal success.
- Students explore various careers through **mentoring** and **internship** opportunities provided by industry partners.

Start-Up/Scale-Up Grant Funding Model

Commitment of $6.5M for 4-6 schools

Source of Funds: CTI earmark in 12/21 ARPA Bill (1599-2037) & Skills Capital Grants



Exploration Planning Phase Expectations include:

- Participation in a community of practices (January to June 2023) that includes attending informational sessions reviewing similar programs from RI, CT and NY other states
- Confirmation and description of strategies for the adoption of the five program guiding principles
- Material to support a submission of a program applications in June for FY24 (Yr. 2) for start up funding that would require joint approval by DESE, DHE and the Workforce Skills Cabinet. Item such as the:
  - Implementation model and schedule
  - Industry and Education Partnership MOU
  - Pathway map High School course sequence map and Post Secondary and industry Credential (s) and employment opportunities
  - Student awareness, recruitment, and support plan
  - Industry and community engagement and partnering plan
  - Career advising and work-based learning plan
  - Resource and staffing plan

Exploration Grant Applicant

Eligibility Requirement: Eligible applicants are Massachusetts public Community Colleges or accredited 2-year colleges that are minority-serving institutions as defined by the United States Department of Education, or Public High School. Either a district/K-12 institution or a qualified Institution of Higher Education (IHE) partner can serve as the lead education agency and the resources provided are intended to support all partners in exploration capacity. An organization may only be included in one application submission.

High Priority; Given to applicants that are building STEM Associate Degree bridge programs from existing Innovation Pathways and/or Early College program including those in DESE pilot program or in the current designation process stage.

Prioritization: Given to applicants that are proposing to reach students who currently have limited access to CVTE programming, and to those that plan to build a large-scale program with intentional scope and sequencing that allows a minimum of 400 students to participate (target of approximately 70 student per grade level).

Award: Multi year contact. Cost reimbursement contracts, with an anticipated contract start date of December 31, 2022, and the planning grant phase completing June 30,2023.

Established Partnering Roles by a MOU completed during six-month planning phase

Industry

- ❑ Supporting Skills Map that details entry level job needs
- ❑ Provide work experiences that include mentoring, site visits, speakers, project days, paid internships
- ❑ Commitment to first in line consideration for jobs
- ❑ Collaboration with high school and college partner to ensure that work experiences are integrated with high school and college coursework
- ❑ Industry liaison, an employee available at the school to implement commitments

High School

- ❑ Dedicated school leader and staff
- ❑ Open student recruitment based on student interest
- ❑ Curriculum that integrates high school courses with college coursework to enable students to earn high school diploma and a postsecondary degree
- ❑ Collaboration with industry to integrate workplace experiences, including mentoring and internship opportunities
- ❑ Collaboration with college to provide students support and guidance during high school years and as students begin taking college classes

College

- ❑ Curriculum that integrates college courses with high school coursework to enable students to earn high school diploma and a postsecondary degree
- ❑ Collaboration with industry partner to map college coursework to skills required by industry
- ❑ Faculty committed to working with high school teachers to support students' transition from high school to college
- ❑ No cost degree
- ❑ College liaison

STEM Tech Career Academy Program Design

- **Six-year student experience** 9-12th grade to an Associate Degree (College Year 1 and Year 2). Program enrollment must not start no later than mid 10th grade and student should complete high school in 4 years. Students must complete a STEM occupation college credit bearing Associate Degree within 2 academic years of completion of High School.

- Focus on **Associate Degree credential attainment** to support of the WSC priory industry sectors of Healthcare, IT, Manufacturing, Environmental and Life Science, Business and Financial Services

- Program must be **focused on serving cohort of students** and must have a physical location (at High School and/or CC) to provide student support instruction and student support.

- Funding requires the outcome of the **Planning Phase documentation of an MOU with one or more active and visible industry partners** who will commit to providing work-based learning experiences **for no less than 25% of the students.**

- Enrollment in the program must be **open to all students in the secondary school**, without respect to prior academic performance. Program design aims to reflect admissions and placement policy that ensures that at-risk and other underrepresented students are fully able to participate

- Program is designed to meet secondary and post-secondary federal **Strengthening Career and Technical Education for the 21st Century (Perkins V)** approval requirements.

STEM Tech Career Academy Program Design (continued – slide 2)

- During high school students must complete a total 6 courses in the high school plan. A **minimum of a 4-course sequence of advanced courses**, as defined by DESE for the purposes of accountability reporting providing the student an opportunity to gain college credit. Courses **must include a college level math, appropriate for the major (s), and English course**. Additionally, students must participate in **a minimum of 2 technical courses** related to the industry sector concentration. Methods to gain college credit may include articulation agreement, college dual enrollment, or challenge exam (AP, CLEP, Project Lead the Way (PLTW), etc.), and may align to apprenticeship standards. To the extent possible, these courses, if dual-enrollment, should fall under the MassTransfer Gen Ed Foundation and align with established "A2B Mapped" Degree Pathways. Courses must be awarded college credits by the Community College partner.
- Prior to program completion a student must accumulate a **minimum of 300 hours of work-based learning experience related to the pathway.** 100 hrs. must be while in High School following Innovation Pathways standards. The 200 hours in college must include a relevant internship/co-op/apprentice experience (preferred paid).
- Program must award by completion of **high schools a minimum of two industry credentials** (one maybe a safety credential such as OSHA-10) valued by employers. Program must award by completion of **college minimum of two valued industry credentials** (one would be the Associate Degree employers value in hiring. Examples may include industry certification, licensure/registration, technical certificate (credit), apprentice hours).
- Program design reflects **thoughtfulness and opportunity with regard to student entry and exit points** in the program. Program design will also be structured such that should a student need to exit the program, the student will be able to transition out of the program and back into the traditional or a different high school program in a coherent way.

STEM Tech Career Academy Program Design (continued – slide 3)

- The program will **present a plan for outreach and recruitment** of students with recommended additional strategies to address challenges for students who are traditionally under-represented (low-income students, students of color, English language learners, students with disabilities and potential first-generation college-goers). Should student applications exceed program capacity, participation should be determined by a lottery among applicants.
- The program **identifies potential academic and nonacademic challenges for all potential student participants during high school and while in college** (potential academic supports, such as tutoring, peer mentoring, or career coaching are examples of what should be provided).
- A **multi-year plan for proposed career development education activities**, by highs school grade and college enrollment level, providing students a wide range of well-designed career development education activities, including exploration, awareness, and immersion activities evidencing a commitment of community businesses.
- **Aligned career and college counseling is a required** part of the program design including the guided use of Individualized Learning Plans (MyCAP) beginning no later than 9th grade and while in high school with continued college and career advising while enrolled in the Community College.
- **Program must provide student an online tool** (i.e., MEFA Pathways, formerly known as Your Plan for the Future or Naviance: College and Career Technology Solution, Mass CIS, Xello and other similar platforms) for college and career counseling that aligns to the necessary elements of MyCAP (as defined by DESE) and a tool while in Community College

Reminders on Application Submission

- Proposals submitted through the online application system by December 1, 2022.
  - Link to be posted and provide by Nov 15th
  - Draft grant in a traditional Word/Google doc type of software. Then cut in past into the online system. Take word count considerations into account.
  - Including all Applicant Information requested is essential
  - Narrative Questions and Assurances
    - Answer all of the questions and complete all of the assurances
  - Budget Template (upload attachment)
  - Partnering Letter (upload attachment (copy of email is ok)

Significant Impact

Why does this matter for Massachusetts?

- Increase Awareness of STEM Career Opportunities for ALL
- Increase Equitable Access to Aligned High-Quality Programs
- Improve College Enrollment, Persistence, and Completion
- Reduce STEM Workforce Skills Gap

Who Benefits?

- Students
- Families
- Educators
- Employers
- Community
- Commonwealth of Massachusetts

Your feedback requested during today's session

Would it be helpful for us to host a panel session on the topic of Work Based Learning / Internships the end of next week?

What other topic would be helpful for us to provide a panel session.

Based on today's session do you anticipate submitting a letter of interest?

Question and Answers?

Follow Up Contact:

Robert LePage

Assistant Secretary Career Education

robert.lepage@mass.gov

Resources Page 1 of 2

The Exploration Grant RFP is posted on CommBuys (COMMBUYS)
https://www.commbuys.com/bso/external/bidDetail.sdo?docId=BD-23-1036-EDU01-EDUA1-80935&external=true&parentUrl=close

A copy of the announcement press release can be found at
https://www.mass.gov/news/baker-polito-administration-announces-new-stem-tech-career-academies#:~:text=STEM%20Tech%20Career%20Academies%20will,no%20cost%20to%20the%20students

A recoding of last week's announcement webinar can be found at (please note the required passcode: 8rK0.*Q1) https://us02web.zoom.us/rec/share/ZSrrSaZRCYFfIP6vCA9JwyQ0uXRJ9_YNdebEHBBNA4t0NnTGDhXsG9Bz4SQ1kxcz.QytGoBMvvcdMI_1r

Information noted by Ed Lamber Executive Director of MBAE can be found https://www.mbae.org/ and a copy of the report he at https://www.mbae.org/the-p-tech-model-of-early-college-high-school-a-timely-opportunity-for-massachusetts/

Information related to MassBio as noted by President / COO Kendalle Burlin O'Connell can be found at https://www.massbio.org/

Information related to the Mass High Technology Council and noted by President Chris Anderson can be found at https://www.mhtc.org/

Resources Page 2 of 2

In the coming days a STEM TECH Career Academy information will be posted on the STEM Advisory Council website to be found at https://www.mass.gov/info-details/massachusetts-stem-advisory-council.

Regional Blueprint information an be found at https://www.mass.gov/service-details/view-your-regions-blueprint

Early College information can be found at https://www.doe.mass.edu/ccte/early-college/default.html

Innovation Pathway information can be found at https://www.doe.mass.edu/ccte/innovation-pathways/default.html and also community of practice at **https://sites.google.com/view/innovation-pathways/.** The Innovation Pathways "Employer Partnerships" webinar is next week, on November 2. Here's the link for more details and to register: **https://cce.tfaforms.net/46.**

Information on Strengthening Career and Technical Education for the 21st Century (Perkins V) can be found at https://www.doe.mass.edu/federalgrants/perkins/

Information on YouthWorks can be found at https://commcorp.org/program/youthworks/

Information on Connecting Activities can be found at **https://www.doe.mass.edu/connect/**

Information on STEM Starter Academy **https://www.mass.gov/info-details/stem-starter-academy**