

**Why We Will Fill the New School:  
Reasons to Expect In-District Enrollment to Grow  
at Minuteman High School**

**1. Recognition of and support for vocational technical education is growing across the country.**

- “Ready to Work: Reviving Vocational Ed,” American Radio Works broadcast in September of 2014  
<http://www.americanradioworks.org/documentaries/ready-to-work/>
- “Rethinking vocational high school as a path to college” which appeared in Marketplace on October 23, 2014:  
<http://www.marketplace.org/topics/education/learningcurve/rethinking-vocational-high-school-path-college>
- “Vocational high schools: where job skills are the goal” which appeared in Marketplace on October 24, 2014:  
<http://www.marketplace.org/topics/education/learningcurve/vocational-high-schools-where-job-skills-are-goal>
- Broadcast interview on WBRU Radio in Boston which featured Northeastern University’s Barry Bluestone and MAVA President-Elect Robert Dutch, Superintendent-Director at Upper Cape Tech. It focuses on the Dukakis Center’s recent report “Meeting the Commonwealth’s Workforce Needs”. Aired November 11, 2015:  
<http://radioboston.wbur.org/2015/11/11/jobs-four-degree>

**2. Vocational-technical education enjoys strong support from state leaders. Support is broad and bipartisan, ranging from the Republican Governor to the Democratic State Treasurer.**

- Governor Baker Announces Critical Investments in Vocational Education in The Quincy Patriot Ledger on January 25, 2016:  
<http://www.patriotledger.com/news/20160126/governor-proposes-critical-investment-in-vocational-education>
- State Treasurer Touts Girls in STEM During Visit to Minuteman:  
<http://www.yourarlington.com/search/news-archive/430-schools/minuteman/7932-stem-081215.html>

- Vocational Schools Lobby for Funds on Beacon Hill from WGBH News on March 29, 2016:  
<http://news.wgbh.org/2016/03/29/politics-government/vocational-high-schools-make-pitch-solution-mass-workforce-woes>

**3. Massachusetts is increasing financial support for vocational-technical education.**

- Governor Baker Announces \$83.5 Million Investment in Vocational Education in The Daily Free Press on January 28, 2016:  
<http://dailyfreepress.com/2016/01/28/baker-polito-announces-83-5-million-for-career-vocational-technical-education/>
- Governor Baker Announces Vocational Education Initiatives in the Worcester Telegram on January 24, 2016:  
<http://www.telegram.com/article/20160124/NEWS/160129525>
- State Announces \$9.3 Million in Vocational Equipment Grants:  
<http://www.mass.gov/governor/press-office/press-releases/fy2016/9-3-million-in-workforce-skills-capital-grants-.html>

**4. Massachusetts and broad, diverse coalitions such as the Alliance for Vocational Technical Education (AVTE) are pushing to increase the capacity (i.e., number of seats) in vocational-technical schools across Massachusetts.**

- <http://allianceforvoeducation.org/>

**5. Multiple research studies have demonstrated the importance of vocational technical education to Massachusetts and its students. Here are examples from Northeastern University, one funded by the Massachusetts School Building Authority (MSBA):**

- “The Critical Importance of Vocational Education in the Commonwealth”, January 2016:  
<http://allianceforvoeducation.org/wp-content/uploads/2016/01/AVTE.NORTHEASTERN-REPORT.pdf>
- “Meeting the Commonwealth's Workforce Needs: Occupational Projections and Vocational Education”, October 2015:  
[http://www.massschoolbuildings.org/news/publications/Vocational\\_Workforce\\_Report\\_Oct-2015](http://www.massschoolbuildings.org/news/publications/Vocational_Workforce_Report_Oct-2015)

**6. Other districts have experienced increasing enrollment when they built new vocational-technical high schools.**

Three new vocational-technical high schools have been built in Massachusetts in recent years: Worcester Technical High School, Roger L. Putnam Vocational-Technical Academy, and Essex Technical High School. Worcester's turnaround story is particularly well known. With the strong backing of local business and political leaders, the City of Worcester built the new school, transforming it from a school of last resort to a "school of choice" where there is "always" a long wait list. To recognize Worcester Tech's achievements, President Obama spoke at the high school's graduation in June of 2014. Putnam, one of six high schools in the Springfield Public Schools, was once viewed the same way as the old school in Worcester. Now, Putnam is described by Springfield's Public Schools CFO Patrick Roach as "one of our flagship schools". He says the school has "a really long waiting list" that "grew significantly" when the new school was built and programs were upgraded. In addition, he says construction of the new school brought increased attention from local businesses who now hire its graduates. The CFO also said he'd now be willing to send his own children there. Another staff member in the Springfield School District says Putnam now has "capacity issues." In Essex's case, the new school merged programs from three different schools: North Shore, Essex Agricultural, and Peabody. The new school increased overall capacity from roughly 1,000 seats to 1,400 seats. Its applicant pool has also increased. According to Mary Kroesser, Administrator of Pupil Personnel Services & Human Resources, the school had 1,000 applications this year for 360 seats in the ninth-grade class.

**7. Minuteman is known for its high-quality programs.**

A chapter on Minuteman's success was included in ***Job U: How to Find Wealth and Success by Developing the Skills Companies Actually Need***, a book by Nicholas Wyman (published in paperback on January 13, 2015) <http://www.jobubook.com/>

**8. Minuteman has engaged a national expert (Mark Perna of Tools for Schools) in increasing student enrollment and retention at vocational-technical high schools.**

<http://www.tfsresults.com/>

**9. With Mark Perna's help, Minuteman is starting to implement a new recruitment strategy and branding initiative.**

- See "Minuteman: Brand Construct & Identity Guide," February 2016
- See "Enrollment/Retention 8<sup>th</sup> Grade Timeline," April 14, 2016

**10. Mark Perna and his firm have a record of success at other schools, including Massachusetts vocational schools.**

- One example of success: Southeastern Vocational Technical School in South Easton, MA, has 900-1,000 applications for 375 spots.
- Additional examples of the firm's successful efforts to improve student enrollment and retention at vocational-technical schools:  
[http://www.tfsresults.com/tfs\\_results/enrollment-retention-strategic-planning-results/](http://www.tfsresults.com/tfs_results/enrollment-retention-strategic-planning-results/)

**11. Minuteman is experiencing increased interest from 8<sup>th</sup> graders and their parents.**

This year, the first year of implementing a new recruiting strategy, we **quadrupled** the number of students who expressed an interest in visiting Minuteman on Showcase Day.

- See "Middle School Showcase Interest Numbers," November 4, 2015

**12. Applications to Minuteman this year are up 15% from member towns.**

- See "Comparison of In-District Applications," April 22, 2016

**13. Within our District, there's evidence of increasing demand for Vocational Technical Education.**

This was confirmed through a recent survey of Guidance personnel in the middle schools in our sending towns. The survey was conducted by The Education Alliance, a consulting firm based in Natick. More than 70% of the guidance counselors felt that parents would be more willing to send their children to a vocational technical high school in the next five years. Further, more than 71% felt students in their community would be more likely to apply to a voc-tech school in the next five years.

- <http://arlington.wickedlocal.com/article/20151026/NEWS/151028586>

**14. Several member towns have noted large increases in their elementary school enrollment.**

This fact is well known and has been widely reported in the local press.

**15. We are building a smaller school, with a design enrollment of 628 students. The size resulted from years of discussion and debate.**

- <http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/4.%20628%20Enrollment%20Document%20v8%2009.17.2015%20scs.pdf>

**16. The state won't support a design enrollment of less than 600.**

- [http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/MPichetti%20Memo%207.21.15%20Excerpt\\_MSBA-MM%20Corr%207.28.15.pdf](http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/MPichetti%20Memo%207.21.15%20Excerpt_MSBA-MM%20Corr%207.28.15.pdf)

**17. A new school building will attract 8<sup>th</sup> graders and their parents.**

The new school, centered on a Career Academy model, will be a smaller, high-tech school environment with the focus on helping students achieve a significant competitive advantage in college and career. We are transitioning to a more powerful teaching model making a greater academic and career tech impact on students.

**18. Parents will be more attracted to Minuteman once member communities end years of in-fighting and rally around construction of the new school.**

In recent years, Minuteman has been in the news because of multiple controversies involving the building project. These complex issues covered topics such as finances, out-of-district enrollment, capital fees, school committee voting strength, the regional agreement, district-wide balloting, and many other things. While these public debates have helped to fully vet the project, they have also served to confuse – and alienate – many families in the District who otherwise might have sent their sons and daughters to Minuteman. Once this project is approved, under a new regional agreement, the District is re-organized with a clear focus: providing a competitive advantage to our sons and daughters.

**19. A new building will be more attractive because it will ensure continued accreditation by the New England Association of Schools & Colleges (NEASC).**

Right now, Minuteman's accreditation is on "Warning" status, solely due to the condition of the building. A DAPA Research poll showed that maintaining the school's accreditation is critically important to families in the Minuteman district (see Slide 8 of the DAPA Research PowerPoint presentation.) Getting a new building will remove any stigma attached to this "Warning" status.

- <http://minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/NEASC%20Letter%2011.30.12.pdf>

- <http://minuteman.org/site/default.aspx?PageType=3&DomainID=114&ModuleInstanceID=58&ViewID=047E6BE3-6D87-4130-8424-D8E4E9ED6C2A&RenderLoc=0&FlexDataID=647&PageID=610>

**20. Course offerings are attractive and tailored to the interest of students and to the needs of the region’s economy. The new Educational Program Plan was based on labor market research and was scrutinized by the MSBA and DESE.**

- See “Educational Program Plan Chart,” including academic programs and vocational programs offered in the Engineering, Construction & Trades Academy and in the Life Sciences & Services Academy
- See “Educational Program Plan Labor Market Analysis,” revised December 2014

**21. The quality of staff and educational programming is widely recognized.**

A chapter on Minuteman’s success was included in *Job U: How to Find Wealth and Success by Developing the Skills Companies Actually Need*, a book by Nicholas Wyman (published in paperback on January 13, 2015)

<http://www.jobubook.com/>

**22. Exciting new Minuteman initiatives, including the Girls in STEM Mentoring Program and the Girls in the Construction Trades Program, will help attract previously underrepresented female students to the school:**

- A news story in *The Boston Globe* titled “Science camp runs on girl power” about the Girls in STEM Camp on February 20, 2015:  
<http://www.bostonglobe.com/business/2015/02/19/science-camp-runs-girl-power/MFfTvD7q5e7eGfqjeap2KM/story.html>
- Massachusetts Girls in Trades Conference and Career Fair Attracts 400 Students in the Concord Journal on April 7, 2016:  
<http://concord.wickedlocal.com/article/20160407/NEWS/160407526>
- Life Changing Conference Introduces Building Trades to 400 Young Women from Massachusetts, published by the National Building Trades on April 11, 2016:  
<http://wepartypatriots.com/wp/2016/04/11/life-changing-conference-introduces-building-trades-to-400-young-women-from-massachusetts/>

**23. The four-year college costs and ensuing debt continue to increase.**

This has been widely reported and is a universally accepted fact.

**24. At the same time, more and more parents are recognizing the “return on investment” from a vocational-technical education.**

- <http://arlington.wickedlocal.com/article/20151026/NEWS/151028586>

**25. More and more parents are recognizing that a vocational-technical education enables their children to go to college *with a purpose*, not to simply wander aimlessly through an expensive college education.**

- Guidance counselors see more demand for voc-tech in The Arlington Advocate on October 26, 2015:  
<http://arlington.wickedlocal.com/article/20151026/NEWS/151028586>
- PBS Newshour Segment Featuring Southeastern Voc-Tech on January 26, 2016:  
<http://www.pbs.org/newshour/bb/should-more-kids-skip-college-for-workforce-training/>

**26. Watertown and Everett are likely to continue to send students to Minuteman even when required to pay a new capital fee on top of the annual tuition fee.**

This is based on our knowledge of these communities and discussions with community leaders.

**27. The six towns which are leaving the district are likely to continue to send students to Minuteman for the foreseeable future.**

This is based on our knowledge of these communities and discussions with community leaders as well as vocational-technical superintendents in the region who would be asked to accept students from these towns.

**28. The recent decrease in enrollment was planned.**

- See the “Fiscal Year 2017 Proposed Budget” document, including the “Executive Summary” on pages 3-4 and the “15 Year Historical Enrollment – October 1 Data” chart on page 15:  
[http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/12/FY17%20Budget%20Book%20kfm%2003\\_31%20sw.pdf](http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/12/FY17%20Budget%20Book%20kfm%2003_31%20sw.pdf)
- See “Enrollment Resolution Facts: The Determination of the 628-Student Design Enrollment Number”:  
<http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/4.%20628%20Enrollment%20Document%20v8%2009.17.2015%20scs.pdf>

**29. Minuteman's finances are in order. Its most recent annual audit had no findings or recommendations.**

- <http://www.yourarlington.com/search/news-archive/430-schools/minuteman/8185-minuteman-112315>

**30. Minuteman's operational costs are decreasing. Its FY 2017 budget is smaller than the FY 16 budget. This downward trend will continue as we move toward a smaller school with fewer staff.**

- <http://concord.wickedlocal.com/article/20160201/NEWS/160209675>
- [http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/14/A.%20FY17%20Public%20Hearing%20SC%20Presentation\\_20160119%20V2%2001.pdf](http://www.minuteman.org/cms/lib8/MA01907667/Centricity/Domain/14/A.%20FY17%20Public%20Hearing%20SC%20Presentation_20160119%20V2%2001.pdf)

**31. The per-student operating cost will decrease.**

Lower costs make the school more attractive to in-district and out-of-district communities.

**32. Reduced district size will reduce transportation costs.**

At the present time, Minuteman's transportation costs are huge. With fewer towns, those costs will be reduced. Lower costs make the school more attractive to in-district and out-of-district communities.

**33. Discontinued courses will be shut down when students who entered as 9<sup>th</sup> graders graduate.**

Our new Educational Program Plan calls for 16 vocational-technical programs in two Career Academies. Some existing programs are being phased-out and others are being consolidated, but our existing students are entitled to stay in their programs until they complete them. When the programs end, communities will see a benefit. Lower costs make the school more attractive to in-district and out-of-district communities.

**34. A professional poll conducted by DAPA Research (nationally-known pollster David Paleologos) confirmed there's strong recognition of and support for Minuteman and its programs by residents in the Minuteman District.**

- <https://www.bostonglobe.com/metro/regionals/west/2015/09/23/poll-finds-support-for-new-minuteman-school-project/FTS7LD1gOqxjzINpBqEPOH/story.html>



- <http://minuteman.org/site/default.aspx?PageType=3&DomainID=114&ModuleInstanceID=58&ViewID=047E6BE3-6D87-4130-8424-D8E4E9ED6C2A&RenderLoc=0&FlexDataID=647&PageID=610>

**35. MSBA has carefully scrutinized the project and has confidence in the school's viability. MSBA is investing more than \$44 million in a new Minuteman facility.**

- [http://www.massschoolbuildings.org/news\\_events/Board\\_1.27.16/Minuteman\\_HS](http://www.massschoolbuildings.org/news_events/Board_1.27.16/Minuteman_HS)
- <http://minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/1.%20MSBA-MM%20Correspondence%207.28.15.pdf>

**36. Minuteman enjoys strong state support, with key state leaders publicly expressing support for Minuteman and its building project.**

- “Minuteman Gets Final Go-Ahead from MSBA”, quoting the MSBA board chair, in the Lexington Minuteman on January 27, 2016:  
<http://lexington.wickedlocal.com/news/20160127/minuteman-gets-final-go-ahead-from-msba-moves-to-seeking-funding>
- MSBA Staff Memo from Director of Capital Planning Mary Pichetti Analyzing and Recommending Approval of the Minuteman Project, July 21, 2015:  
[http://minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/MPichetti%20Memo%207.21.15%20Excerpt\\_MSBA-MM%20Corr%207.28.15.pdf](http://minuteman.org/cms/lib8/MA01907667/Centricity/Domain/81/MPichetti%20Memo%207.21.15%20Excerpt_MSBA-MM%20Corr%207.28.15.pdf)
- See letter of general support for the project and programs from DESE Deputy Commissioner Jeffrey Wulfson, May 11, 2015

**37. Minuteman enjoys strong state support, with the state continuing to invest in Minuteman, most recently with a \$500,000 competitive grant to support a new Advanced Manufacturing and Machine Technology program.**

- <http://patch.com/massachusetts/concord/minuteman-school-gets-500000-competitive-state-grant-0>

**38. We offer a "competitive advantage" for students, whether they plan to attend college or go directly into the workforce.**

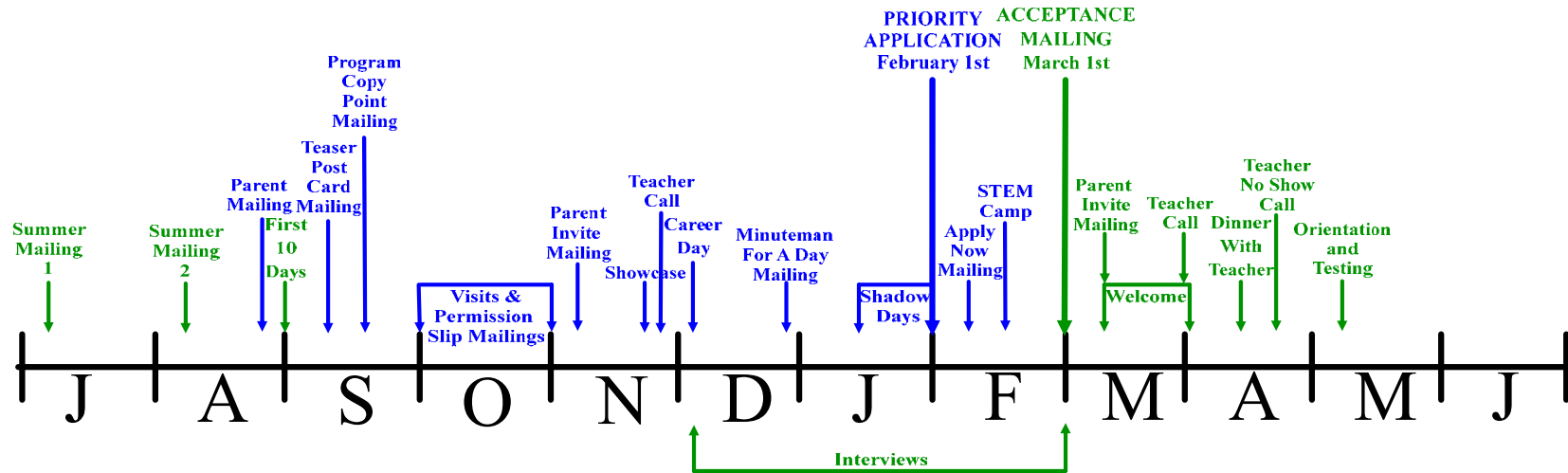
- <http://www.yourarlington.com/easyblog/entry/4-schools/2104-minuteman-122915.html>

- <http://www.minuteman.org/site/default.aspx?PageType=3&DomainID=4&ModuleInstanceID=555&ViewID=047E6BE3-6D87-4130-8424-D8E4E9ED6C2A&RenderLoc=0&FlexDataID=414&PageID=1>

# Enrollment/Retention 8th Grade Timeline

Revised 04-14-2016

**Right Student ... Right Program ... Right Reasons**  
**Enrollment > Retention > Graduation**



04-14-2014: We recapped the RT through the dinner which was very successful. We worked through the summer drips including the orientation/testing and the first 10 days. We discussed in depth that this years first 10 days must kickoff the Career Tree in each CTE program and in academics the lessons created to help students understand both careers and lifestyles - laying the groundwork for each student to work through the Career Tree research in each CTE program. We also reviewed the early steps in the ET and must further review the ET at our first meeting of next school year.

03-15-2016: We discussed the enrollment number and we are up 15.3% over last year with in district students. 111 last year through June and 128 this year as of March 14th. We reviewed the Career Tree and determined that it is not being adopted and used to the best of our organization. Jack will lead the enhanced deployment of the trees with the focused and regular use of the trees in both CTE and academic classrooms. We recapped the ET and are prepared to starting making plan tweaks at the April meeting. We also recapped some of the RT and reviewed in depth the Dinner event. We will recap the RT and start planning the summer drips, first 10 days, and then calibrate the ET start of the school year at our April meeting.

02-11-2016: We discussed the branding construct and dialogued about the following steps. Our goal is to approve the construct by March 15th so I can share the update with staff. We also discussed our applications and we are at 135 verses 85 last year for in district towns. We are down significantly for out of district towns, but due to the changes in the law - that is to be expected as they cannot come. We also discussed the RT Dinner and surrounding drips to ensure that we are planning effectively. We discussed the dinner (90 minutes, dinner first, split groups off after dinner (students team building and parents dessert and answering questions - presenting needed info as needed)). The team will create the tactical level plan and George will send to me 1 week prior to our March 15th meeting. I will present to staff and make the case to be a part of this important evening. Staff do not have to come - as it is an optional event according to their contract. We will conclude the discussion on March 15th and Mark will adjust the presentation if needed.



**MINUTEMAN**  
A REVOLUTION IN LEARNING

# BRAND CONSTRUCT & IDENTITY

February 2016

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A REVOLUTION IN LEARNING

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## STRATEGY MATRIX

The Strategy Matrix illustrates the interconnectedness of a brand's defining elements. These variables come together to generate an overall strategy. Each piece of the matrix lends itself to insights and breakthroughs for the others.

### **Brand:**

What is the essential focus of the brand?  
What parts of the brand should be included in the strategy?

### **Audience:**

Who is targeted?  
What insights or trends could help develop the strategy?

### **Context:**

What is best known about this market?  
What events, developments or cultural shifts are vital to the strategy?

### **Strategy:**

What is the overarching objective we need to communicate?



# MINUTEMAN BRAND OVERVIEW



**MINUTEMAN**  
A REVOLUTION IN LEARNING





## COMMUNICATIONS OBJECTIVE

**Build the target audiences' awareness of the revolutionary competitive advantage Minuteman delivers through a quality high school education that combines robust academics and career & technical training**



## MESSAGING HIERARCHY

The goal of this messaging hierarchy is to explore Minuteman's benefits and mine out the key value propositions. By approaching the message from various stances, we can craft a cohesive core message as the basis for the Minuteman story, which is encapsulated in the brand tagline and pillars. This story should be adapted to the driving priorities of each audience segment, as demonstrated in the elevator speeches.

### **What are we selling?**

A high school education unlike any other, combining rigorous academics with hands-on career & technical learning to give students a revolutionary competitive advantage

### **What do we want to accomplish in the brand message?**

- Present Minuteman as the first and only choice for an exclusive competitive advantage that expands students' options and opportunities upon high school graduation
- Emphasize the high quality of the overall Minuteman experience (encompassing technology, deep integration of curriculum, student engagement, instructors, support structures, etc.)
- Highlight the value of career & technical skills as a great return on investment for students headed to college, career, and beyond
- Define Minuteman as a place where education and purpose are connected

## MESSAGING HIERARCHY (CONT.)

### With whom do we want to connect, and what do they want/fear?

- **High school students:** who want to get a unique advantage in high school, enjoy their high school years, get college credit in high school, graduate, prepare for and succeed in college, explore their career direction, get certified, and get high-wage jobs. They may fear stepping out of their comfort zone at their HS to come to Minuteman.
- **Parents:** who want their students to get a unique advantage in high school, prepare for college success, explore their interests and direction now rather than after HS graduation, get certified, and get high-wage, satisfying, self-sustaining jobs. They may fear that Minuteman offers a lower standard of education than a traditional high school.
- **Partner schools:** who want students to succeed and parents to be satisfied, as well as to further their school's reputation and funding. They may fear that Minuteman will attract more students than they want to send.
- **Minuteman organization:** who want to see Minuteman succeeding at all levels: with students, employers, and in the community, so they can feel pride in their work as part of a bigger picture. They may fear change.
- **Higher education institutions:** who want college-ready students who do not need remediation, more dual-enrolled students, workforce education connections, and reliable feeder schools. They may fear that Minuteman students are not ready for college-level work.
- **Business and industry partners:** who want a steady stream of skilled, professional, and certified workers. They may fear that Minuteman students do not have the skills to succeed in the workplace.
- **Legislators (state and town):** who want to be reelected, be responsive to their constituency, and improve the area workforce, thereby strengthening the local economy and attracting more businesses to the area. They may fear that supporting Minuteman might jeopardize other partnerships.
- **Voters/community:** that wants low taxes, wise use of existing tax dollars, an accredited Minuteman, positive economic development, a stable, productive, and civic-minded population, and personal enrichment opportunities. They may fear that Minuteman is not using existing tax dollars most effectively or that their taxes will go up.
- **Media/press:** who want positive local and community interest stories and possibly regularly occurring stories to fill space. They may be more indifferent than fearful toward portraying Minuteman positively.

## MESSAGING HIERARCHY (CONT.)

### How should the brand make them feel?

- **High school students:** *eager* to experience meaningful education where they are treated as professionals who can achieve great things
- **Parents:** *confident* that Minuteman offers their child an excellent high school education with an exclusive competitive advantage
- **Partner schools:** *convinced* that Minuteman is a great option for students of all backgrounds
- **Minuteman organization:** *excited* to be part of a valuable, successful, and evolving institution
- **Higher education institutions:** *sure* that Minuteman is helping them reach their goals by producing college-ready students in greater numbers
- **Business and industry partners:** *certain* that Minuteman graduates have the skills to succeed on all levels in the workplace
- **Legislators (state and town):** *assured* that Minuteman is effective in achieving its mission
- **Voters/community:** *supportive* of Minuteman's goals and vested in its success
- **Media/press:** *positive* toward Minuteman's mission and ready to applaud its efforts

### What would they like about the brand?

- **Competitive advantage:** Students who gain both academic knowledge and career & technical skills are uniquely poised for success. In addition, developing college and career skills now gives them a unique edge over the traditional high school experience — expanding their opportunities and building their confidence.
- **Value:** At Minuteman, students get the full academic package of high school, plus a lifelong marketable skill they can use as a stepping stone in their future education.
- **Quality:** Rigorous academic and career & technical instruction, great training equipment, and excellent instructors provide a fully rounded learning experience.
- **Success:** No matter what your learning style, Minuteman sets you up to succeed both in high school and in college.
- **Direction:** Minuteman helps students discover their passion, giving them a clear pathway to achieve the goals they set for themselves.

## MESSAGING HIERARCHY (CONT.)

### How can we simplify our audience segments?

Minuteman's audience is broad and diverse, with varying motivations and priorities. Dissecting each segment is beneficial, but it's also helpful to break the audience down into two main groups:

- The *stakeholders* in the students' success (parents, business and industry partners, higher education institutions, Minuteman organization, legislators, voters/community, and indirectly media/press)
- The *students* themselves

### How should we speak to each audience?

Messaging should be crafted in two main voices:

- Stakeholder messaging: exude confidence and professionalism to demonstrate that Minuteman is not only up to date, but a leader/innovator in education. Assume solidarity and shared goals, using lots of "we" language to drive home the local spirit and investment of Minuteman.
- Student messaging: use modern, slightly edgy headlines and a somewhat casual, "real-world" tone to appeal to this segment, always coming back to the idea of a revolutionary competitive advantage to drive the value.



## MESSAGING HIERARCHY (CONT.)

### Why should they choose Minuteman over the competition?

- **Minuteman puts the student first.** By starting with each student's internal interests, abilities, and aptitudes, Minuteman is able to build a unique pathway that empowers the student to go further and achieve more. The learning is adapted to the student, not the other way around.
- **Minuteman offers a revolutionary competitive advantage.** The synergy of academic knowledge and technical skills is the single most important asset in the 21st-century American workforce — and Minuteman delivers this powerful educational edge during the high school years.
- **Minuteman connects Education with Purpose®.** Meaningful academics + experiential career & technical learning = purposeful education that prepares students for the real world of college and career.

### How can we make Minuteman stand out?

Because the market is saturated with educational options, it is important to differentiate Minuteman from the pack by emphasizing two intertwined aspects of the Minuteman experience... **REVOLUTION** and **ADVANTAGE**. Minuteman *revolutionizes* the high school experience by integrating (not just adding) valuable career & technical skills within a rigorous academic curriculum. This leads to a *competitive advantage* unlike any other, because Minuteman students graduate already poised to succeed in their college and career experience.

## MESSAGING HIERARCHY (CONT.)

### What is unique about the Minuteman package?

In a market saturated with educational options, understanding and communicating Minuteman's unique value proposition is critical. Other organizations may offer some of these benefits, but from a high-level view, only Minuteman delivers the full package of:

- The revolutionary integration of robust academic instruction and hands-on career & technical learning
- Project-based learning opportunities
- Industry certifications/licensures
- True college and career preparation (so much more than just classroom time)
- Highly qualified and distinctive instructors who want to mentor their students
- High-tech training equipment/labs for a positive experience and outcome
- Personalized, proven support for different learning styles
- Paid internships and employer networking
- Caring, inclusive environment where students are part of the Minuteman family

### Strategic Focus:

Telling one story — how Minuteman delivers a revolutionary competitive advantage that expands options and opportunities — in diverse ways that resonate with each audience.

### Tone:

#### Confident

Students: Energetic, casual, edgy, and experiential

Stakeholders: Compelling, professional, proactive, and expert

# MINUTEMAN BRAND OVERVIEW



## BRAND TAGLINE, VISION, PILLARS, CALLOUTS, ETC.

### Brand Tagline

**A REVOLUTION IN LEARNING.** (existing)

**REVOLUTIONIZE YOUR EXPECTATIONS.** (TFS recommendation)

### Brand Pillars/Alternate Tagline

**Aspire. Accelerate. Achieve.**

### Mission

Minuteman collaborates with parents, communities, and business leaders to serve a diverse student body with multiple learning styles. Through a challenging integrated curriculum our students develop the academic, vocational, and technical skills necessary to be productive members of a global community. We value life-long learning that fosters personal and professional development in a safe and respectful environment.

### Student Messaging Callouts

- Major in the Revolution.
- Be Revolutionary. Be Minuteman.
- Get In On the Revolution.
- Launch Your Learning Revolution.
- Rise to the Revolution.
- Make it Matter. Make it Minuteman.
- Are You Ready for the Revolution?
- High School. Revolutionized.
- Experience the Learning Revolution.

### Stakeholder Messaging Callouts

- Revolutionary Results.
- Revolutionizing Your Results.
- Success Revolutionized.
- Revolutionizing the 21st Century Workforce.
- Where Aspirations Become Achievements.
- When It Matters, Make It Minuteman.
- Your Connection for Education That Matters.

### Buzzwords

Revolution • Confidence • Unique • Purposeful • Quality • Exclusive • Direction • Achievement • Meaningful

# MINUTEMAN BRAND OVERVIEW



## CREATIVE CONSTRUCT

### Communications Objective:

Build the target audiences' awareness of the revolutionary competitive advantage Minuteman delivers through a quality high school education that combines robust academics and career & technical training.

### Brand Positioning:

Position Minuteman as a place where students can aspire, accelerate, and achieve their potential for true college and career readiness.

### Brand Tagline: A Revolution in Learning. –or– Revolutionize Your Expectations.

### Brand Value Proposition (students):

Are you ready for the revolution? At Minuteman, we've completely reinvented high school to deliver full academics alongside an exciting career & technical education. You'll aspire to your full potential, accelerate your learning, and achieve a revolutionary competitive advantage to get ahead in your college and career goals. Working alongside our highly experienced and professional instructors, you'll get to do something you love in a high-tech environment. It's a high school experience unlike any other — only at Minuteman! We offer the full package: college credit, national industry certifications, personalized learning, paid internships, student leadership opportunities, scholarships, and more! And with our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. You can do it — and we can help. Revolutionize your expectations and expand your opportunities at Minuteman today!

### Brand Pillars: Aspire. Accelerate. Achieve.

<b>Aspire.</b>	<b>Accelerate.</b>	<b>Achieve.</b>
Direction	Quality	Advantage
Purpose	Support	Opportunity
Potential	Confidence	Success



## BOILERPLATE LANGUAGE

In information technology, a boilerplate is a unit of writing that can be reused over and over without change. By extension, the idea is sometimes applied to marketing content that remains consistent across a range of collateral to build equity through repetition. The Minuteman boilerplate language is designed to promote messaging continuity as a signoff on the back of brochures, at the bottom of program sell sheets, and anywhere else a concise, high-level value statement about Minuteman is appropriate.

### INFORMAL:

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#### **Minuteman: A Revolution in Learning.**

At Minuteman, we collaborate with parents, communities, and business leaders to serve a diverse student body with multiple learning styles. Through a rigorous integrated curriculum, our students gain both academic and career & technical skills for a revolutionary competitive advantage. Because we value lifelong learning that fosters personal and professional development, we challenge all students to aspire to their full potential, accelerate their learning, and achieve success in our 21st-century global community.

### FORMAL:

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#### **About Minuteman**

Minuteman is an award-winning regional high school that integrates robust academic and career & technical learning to deliver a revolutionary competitive advantage. The school serves a diverse student body with multiple learning styles, expanding opportunities for college and career success. As an accredited member of the New England Association of Schools & Colleges (NEASC), Minuteman challenges all students to aspire to their full potential, accelerate their learning, and achieve success in the 21st-century global community.

## MESSAGING STRATEGY TIPS

**Use supportive, encouraging language.** For many parents and students, attending Minuteman might initially sound complicated or overwhelming. Students may also be anxious about trying something new and stepping outside their comfort zone. Highlight the support structures in place that will ensure student success. But with that...

...**Don't present Minuteman primarily as a special ed solution.** Minuteman delivers a revolutionary competitive advantage to every student.

**Write student content for students... and their parents.** Generations Y and Z tend to be very connected with their parents and involve them in many life decisions. Therefore, it's important to write student-facing content with an eye to their parents, because it's likely they will be reading that literature as well.

**Speak aspirationally.** Minuteman often faces the stigma of being a "lesser" educational option. This means it's crucial to position the school as a challenging and engaging place where students can aspire to and achieve great things.

**Use the student's name whenever possible.**

**Speak in the first person:** We're here for you!

**Guard against clichés.** Subtle puns may be used in headlines. Alliteration in headlines and taglines may be appropriate if not overly forced.

**Use bullet points** to break up large blocks of copy and highlight critical information. Don't be overly wordy or repetitive.

**Talk about the community** and **exhibit local pride** wherever appropriate. Assume solidarity/common goals and communicate in a personable, warm tone.

**Strive for a polished voice that is still friendly and approachable.** Don't be afraid to use exclamation points (sparingly — and just one at a time) to communicate the energy and excitement of what Minuteman can do for the reader.



## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT

You never know when you will have the opportunity to talk with someone about Minuteman and the competitive advantages it delivers. Preparing ahead of time and keeping the priorities of each segment in mind will help you be an effective ambassador and represent Minuteman in the best light. The following elevator speeches are not scripts for you to memorize, but examples to color with your own role, personality, history, and appreciation of Minuteman.

- **High school students:** who want to get a unique advantage in high school, enjoy their high school years, get college credit in high school, graduate, prepare for and succeed in college, explore their career direction, get certified, and get high-wage jobs. They may fear stepping out of their comfort zone at their HS to come to Minuteman.

*You know, at Minuteman, we're all about **revolution**. We've completely reinvented high school to deliver full academics alongside an exciting career & technical education. You'll **aspire** to your full potential, **accelerate** your learning, and **achieve a revolutionary competitive advantage** to get ahead in your college and career plans. It's a high school experience unlike any other, only at Minuteman! Freshmen can even choose their own electives here. You'll work alongside our highly experienced and professional instructors in a high-tech environment doing something you love — and you'll graduate high school ready for the real world.*

*At Minuteman, it's the full package: college credit, national industry certifications, personalized learning, paid internships, student leadership opportunities, national competitions, scholarships, and more! And with our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. You can do it — and we can help. Would you like one of our brochures to find out more?*





## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Parents:** who want their students to get a unique advantage in high school, prepare for college success, explore their interests and direction now rather than after HS graduation, get certified, and get high-wage, satisfying, self-sustaining jobs. They may fear that Minuteman offers a lower standard of education than a traditional high school.

*We're finding that a lot of people in the community aren't aware of everything Minuteman offers students. In a nutshell, we've **revolutionized** high school to deliver full academics alongside a valuable career & technical education. We help students **aspire** to their full potential, **accelerate** their learning, and **achieve a revolutionary competitive advantage** to get ahead in their college and career plans. This expands their options because they graduate truly college ready, no matter what their career goals. Minuteman is the local expert in this type of rigorous learning, and our professional, industry-recognized instructors really take the time to invest in each student.*

*At Minuteman, it's really the **revolutionary competitive advantage** we deliver that sets us apart. The synergy of academic knowledge and technical skills is the single most important asset in the 21st-century American workforce — and Minuteman delivers this powerful educational edge during the high school years. With our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. Our students can earn college credit, national industry certifications, paid internships, scholarships, and more. Quite simply, it's a high school experience unlike any other. Would you like a brochure to find out more?*



## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Partner schools:** who want students to succeed and parents to be satisfied, as well as to further their school's reputation and funding. They may fear that Minuteman will attract more students than they want to send.

*We're finding that there are still a lot of misconceptions about what Minuteman can do for students. In a nutshell, we deliver full academics alongside a valuable career & technical education to help students **aspire** to their full potential, **accelerate** their learning, and **achieve a revolutionary competitive advantage**. This expands their options because they graduate truly college ready and poised to reach their career goals. Minuteman is the local expert in this type of rigorous hands-on learning, and our professional, industry-recognized instructors really take the time to invest in each student.*

*When students succeed, we all succeed. Though we honor different learning styles and build the educational experience around each student's needs, we're far more than just a vocational or special ed solution. We deliver a complete and challenging high school education to inspire every student to reach their college and career goals. Our students can earn college credit, national industry certifications, paid internships, scholarships, and more. And with our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. How can we work together to help students succeed?*



## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Minuteman organization:** who want to see Minuteman succeeding at all levels: with students, employers, and in the community, so they can feel pride in their work as part of a bigger picture. They may fear change.

*At Minuteman, you're part of a **revolution in learning**. We are committed to helping students **aspire** to their full potential, **accelerate** their learning, and **achieve** a **revolutionary competitive advantage**. Because of our unique integration of full academics and valuable career & technical skills, our students graduate truly college and career ready. Our employer and higher education partners trust the results we produce, and the community values our contribution to student success and a strong local workforce.*

*Why is Minuteman so **revolutionary**? The synergy of academic knowledge and technical skills is the single most important asset in the 21st-century American workforce — and with your contributions, we deliver this powerful **competitive advantage** during the high school years. Quite simply, it's a high school experience unlike any other — and we can't do it without you. Thanks for everything you do to make Minuteman the proactive first choice for our students!*



## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Higher education institutions:** who want college-ready students who do not need remediation, more dual-enrolled students, workforce education connections, and reliable feeder schools. They may fear that Minuteman students are not ready for college-level work.

*Times have changed, and Minuteman has changed with them. We've reinvented high school to deliver full academics integrated with valuable career & technical skills for an educational experience unlike any other. This helps students from all backgrounds to **aspire** to their full potential, **accelerate** their learning, and **achieve a revolutionary competitive advantage**. Our students graduate truly college ready, with expanded opportunities in whatever field they choose. Minuteman is the local expert in this type of rigorous hands-on learning that will help students achieve more in a new and changing economy.*

*What really sets us apart, however, is the accountability measures and personal investment we make in every student. We honor different learning styles and work with each student individually to build the educational experience around them. The result is that when our students graduate high school, they already know what they want to do and have developed the critical skills to maximize their college performance. Employers trust the results we produce, and that's why we talk about Minuteman delivering a **revolutionary competitive advantage**. We go beyond the ordinary high school experience to make the difference for our students. How can we work together to help more students reach their college and career goals?*





## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Business and industry partners:** who want a steady stream of skilled, professional, and certified workers. They may fear that Minuteman students do not have the skills to succeed in the workplace.

*As you may know, Minuteman is the area's go-to source for a **revolutionary** high school experience. We merge full academics with a valuable career & technical education to help students **aspire** to their full potential and **accelerate** their learning. This in turn helps you **achieve** a skilled, certified, and professional 21st-century workforce to power your business. No one else does what we do at this level, and the caliber of our students proves it. Alongside a rigorous academic schedule, our students are thoroughly trained in today's most high-demand career & technical skills, using industry-standard training equipment. They're not just taught, but mentored by our professional instructors, who consistently produce skilled, certified workers who graduate truly college and career ready.*

*And because our graduates have been coached to such levels of excellence, they take their work seriously and are committed to success both in their personal and work lives. It's a **revolutionary competitive advantage** for everyone, and it's why Minuteman makes the difference. We have internship, mentorship, job shadowing, and apprenticeship opportunities available — would you like a brochure to find out more?*





## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Legislators (state and town):** who want to be reelected, be responsive to their constituency, and improve the area workforce, thereby strengthening the local economy and attracting more businesses to the area. They may fear that supporting Minuteman might jeopardize other partnerships.

*I value your commitment to quality education that will make the difference for our region. At Minuteman, our education strategy is simple: we help students **aspire** to their full potential, **accelerate** their learning, and ultimately **achieve a revolutionary competitive advantage**. The synergy of academic knowledge and technical skills is the single most important asset in the 21st-century American workforce — and Minuteman delivers this powerful educational edge during the high school years. We strengthen our area workforce and economy by building the educational experience around each student as we expose them early on to exciting careers in today's most in-demand industries. Student by student, we're closing the skills gap in our community, and we take pride in that.*

*We also take pride in our highly experienced instructors, deep integration of curriculum, industry-standard training equipment, unmatched accountability measures, and proven college acceptance and success rates. Local employers know that we consistently produce skilled workers who have earned national certifications — it's a win-win for everyone. We deeply appreciate your support as we continue to deliver **education with purpose** here in our community.*

## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Voters/community:** that wants low taxes, wise use of existing tax dollars, an accredited Minuteman, positive economic development, a stable, productive, and civic-minded population, and personal enrichment opportunities. They may fear that Minuteman is not using existing tax dollars most effectively or that their taxes will go up.

*At Minuteman, we've **revolutionized** high school through the integration of full academics with valuable career & technical skills. Together, we're working hard to make the most of our resources and strengthen our local workforce and economy. That's why our strategy is to help students **aspire** to their full potential, **accelerate** their learning, and ultimately **achieve a revolutionary competitive advantage**. This helps everybody, because successful students become productive citizens who make our community the great place it is.*

*Because we believe every student deserves a fantastic education, we honor many different learning styles as we build the educational experience around each student's individual needs. Our caring and professional instructors deliver a complete and challenging high school education to inspire every student to reach their college and career goals. And with our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. Our students can earn college credit, national industry certifications, paid internships, scholarships, and more. We also offer personal enrichment opportunities to everyone in the community through our Minuteman Community Education program. Would you like a brochure to find out more?*



## TELLING THE STORY: ELEVATOR SPEECHES BY SEGMENT (CONT.)

- **Media/press:** who want positive local and community interest stories and possibly regularly occurring stories to fill space. They may be more indifferent than fearful toward portraying Minuteman positively.

*As a high school that has **revolutionized** the learning experience, Minuteman is an exciting place to be. We deliver full academics plus a valuable career & technical education, helping students **aspire** to their full potential, **accelerate** their learning, and **achieve a revolutionary competitive advantage**. This expands their options because they graduate truly college ready, no matter what their career goals. The synergy of academic knowledge and technical skills is the single most important asset in the 21st-century American workforce — and Minuteman delivers this powerful educational edge during the high school years.*

*Because we believe every student deserves a fantastic education, we honor many different learning styles as we build the high school experience around each student's individual needs. Our caring and professional instructors deliver a complete and challenging education to inspire every student to reach their college and career goals. And with our proven college acceptance and success rates, it's easy to see how Minuteman makes the difference. Our students can earn college credit, national industry certifications, paid internships, scholarships, and more. Quite simply, it's a high school experience unlike any other. Would you like a brochure to find out more?*

# MINUTEMAN BRAND OVERVIEW



**MINUTEMAN**  
A REVOLUTION IN LEARNING

## PROGRAM COPY POINTS

### **AUTOMOTIVE TECHNOLOGY**

- Work on foreign, domestic, and alternative fuel cars and trucks in a high-tech precision industry
- Maintain, repair and fine-tune a wide range of vehicles alongside an ASE Master Technician in a full-service automotive center
- Troubleshoot complex automotive systems using advanced diagnostic equipment

#### **CAREER FOCUS:**

Prepared for immediate employment, advanced certifications, and further education

#### **PAID INTERNSHIPS / CERTIFICATIONS / COMPETITIONS**

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### **BIOTECHNOLOGY**

- Design and perform advanced laboratory experiments to solve biological and scientific mysteries
- Use cutting edge technology to isolate, manipulate, and alter DNA in the creation of mutated organisms
- Conduct hands-on research in forensics, cell biology, and genetic engineering

#### **CAREER FOCUS:**

Prepared for immediate employment and further education

#### **INTERNSHIPS / COLLEGE CREDIT / COMPETITIONS**





## PROGRAM COPY POINTS (CONT.)

### **CARPENTRY AND CONSTRUCTION**

- Build an energy efficient house from the ground up for community sale
- Experience all aspects of residential and commercial construction including estimating, framing, roofing, and interior finishing
- Operate a wide range of power tools and work alongside professional carpenters and general contractors

#### **CAREER FOCUS:**

Prepared for immediate employment and further education

#### **PAID INTERNSHIPS / COMMUNITY PROJECTS / CERTIFICATIONS**

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### **COSMETOLOGY AND BARBERING**

- Express individual creativity by providing a wide range of artistic hair, nail, and skincare services
- Experience and run a modern full-service salon and spa
- Work alongside professional cosmetologists using the latest technology, trends, and name-brand products

#### **CAREER FOCUS:**

Prepared for state licensure, immediate employment, and further education

#### **STATE LICENSURE / CERTIFICATIONS / COMPETITIONS**



## PROGRAM COPY POINTS (CONT.)

### **CULINARY ARTS AND HOSPITALITY**

- Cook and bake alongside professional chefs preparing gourmet appetizers, soups, salads, entrées, and desserts
- Join an award winning program and gain a competitive edge in cooking and baking competitions
- Be a key part of the team that creates a unique dining experience in our student-run restaurant and bakery

#### **CAREER FOCUS:**

Prepared for immediate employment and further education

#### **PAID INTERNSHIPS / COMPETITIONS / CERTIFICATIONS**

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### **DESIGN AND VISUAL COMMUNICATION**

- Express your unique artistic vision by creating dynamic illustrations, computer animations, and digital photographs
- Design, produce, and deliver a wide range of creative promotional materials for interactive web and print media
- Showcase your unique talents by creating a digital portfolio for college and career

#### **CAREER FOCUS:**

Prepared for immediate employment and further education

#### **PAID INTERNSHIPS / COLLEGE CREDIT / COMPETITIONS**



## PROGRAM COPY POINTS (CONT.)

### EARLY EDUCATION AND TEACHING

- Experience the joy of making a difference in the life of a child in our accredited onsite child development center
- Create, research, and provide developmentally appropriate educational materials and activities that make learning fun and rewarding
- Influence the future of children by shaping their intellectual, social, emotional, and physical development

#### CAREER FOCUS:

Prepared for immediate employment and further education

#### PAID INTERNSHIPS / CERTIFICATIONS / COLLEGE CREDIT

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### ELECTRICAL

- Control electricity to power the world
- Design and install traditional and alternative energy systems for commercial and residential buildings
- Earn apprenticeship experience towards a journeyman's license while working with Master Electricians

#### CAREER FOCUS:

Prepared for continuing apprenticeship, immediate employment, and further education

#### APPRENTICESHIPS / PAID INTERNSHIPS / CERTIFICATIONS



## PROGRAM COPY POINTS (CONT.)

### ENVIRONMENTAL SCIENCE AND TECHNOLOGY

- Save the planet through dynamic experiences focused on green, sustainable, and renewable resources
- Conduct field studies, experiments, and research projects with environmental professionals
- Care for animals, protect endangered species, and manage natural resources

#### CAREER FOCUS:

Prepared for immediate employment and further education

#### COLLEGE CREDIT / CERTIFICATIONS / COMPETITIONS

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### HEALTH ASSISTING

- Improve the well-being of others using professional medical equipment, technology, and techniques
- Explore a wide range of health careers through practical clinical experiences and rigorous academic coursework
- Participate in clinical rotations in long-term care facilities to enhance the quality of residents' lives

#### CAREER FOCUS:

Prepared for immediate employment and further education

#### EMT & EKG CERTIFICATIONS / CNA CERTIFICATION / PAID INTERNSHIPS





## PROGRAM COPY POINTS (CONT.)

### **HORTICULTURE AND LANDSCAPING TECHNOLOGY**

- Use advanced technology and equipment to grow and maintain sustainable landscapes and farm-to-table produce
- Design, construct, and manage all aspects of landscaping, turf management, and greenhouse technology
- Work with experts in the field of horticulture and participate in national competitions

#### **CAREER FOCUS:**

Prepared for immediate employment, advanced certifications, and further education

#### **PAID INTERNSHIPS / CERTIFICATIONS / SCHOLARSHIPS**

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### **PLUMBING AND HEATING**

- Diagnose and repair commercial and residential piping systems alongside licensed Master Plumbers
- Design and install environmentally-friendly systems according to renewable energy regulations
- Build innovative and efficient boiler and gas systems

#### **CAREER FOCUS:**

Prepared for immediate employment and further education

#### **PAID INTERNSHIPS / COMMUNITY PROJECTS / CERTIFICATIONS**



## PROGRAM COPY POINTS (CONT.)

### PROGRAMMING AND WEB DEVELOPMENT

- Power the modern world by writing code for apps, games, cyber security, and websites
- Develop creative and unique software solutions to complex problems
- Program in advanced languages such as HTML, PHP, JAVA, C++, CSS, and JavaScript

#### CAREER FOCUS:

Prepared for immediate employment and further education

#### COLLEGE CREDIT / PAID INTERNSHIPS / CERTIFICATIONS

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### ROBOTICS, ENGINEERING, AND AUTOMATION

- Build and program high-tech robots that follow your instructions
- Invent, design, and produce solutions for complex engineering challenges using mathematics, science, and technology
- Work individually and in teams to create, test, and modify projects alongside expert engineers

#### CAREER FOCUS:

Prepared for immediate employment, advanced certifications, and further education

#### COLLEGE CREDIT / PAID INTERNSHIPS / COMPETITIONS



## PROGRAM COPY POINTS (CONT.)

### **WELDING AND METAL FABRICATION**

- Use cutting-edge manufacturing technologies to invent, design, and engineer precision parts and tools used worldwide in everyday products
- Solve challenging problems using high-tech materials, machines, and techniques
- Be a key part of a professional team in an advanced and efficient manufacturing environment

### **CAREER FOCUS:**

Prepared for registered apprenticeship, immediate employment, and further education

### **PAID INTERNSHIPS / APPRENTICESHIPS / CERTIFICATIONS**

# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING



**AT MINUTEMAN:  
EXPERIENCE AN EDUCATION  
AS UNIQUE AS YOU!**

**LOOK FORWARD TO SCHOOL!** Make the most of your high school experience by discovering what you're passionate about.

**EXPAND YOUR OPTIONS!** Merge your robust academic education and career tech experience to gain a powerful competitive advantage.

**ACHIEVE ACADEMIC EXCELLENCE!** Take advantage of a wide variety of Honors, Advanced Placement, and Dual Enrollment college courses.

**COMING SOON!** Watch your mailbox for information on the exciting programs and opportunities waiting for you here at Minuteman!

**MINUTEMAN**  
A REVOLUTION IN LEARNING  
758 MARKET ROAD | LEXINGTON MA 02421

First Class Mail  
Permitted  
US Postage  
PAID  
Market Mail  
BX 5000-42424  
Permit # 2113

**MARK YOUR CALENDAR WITH THESE IMPORTANT DATES!**

- Showcase Day ..... Thursday, November 12, 2015
- Career Day ..... Sunday, November 22, 2015 from 1-4PM

*Stephanie, we look forward to seeing you soon!*

f t T: 781.861.6500 - EXT.7225 | MINUTEMAN.ORG

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Teaser Postcard



# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING

Copy Point Brochure

**COLLEGE & CAREER OPPORTUNITIES**

**MINUTEMAN**  
A REVOLUTION IN LEARNING

758 MARBETT ROAD | LEXINGTON, MA 02421  
T: 781.661.6500 | EXT: 7225  
MINUTEMAN.ORG

f t

**MISSION STATEMENT**  
Minuteman collaborates with parents, contractors, and business leaders to serve a diverse student body with multiple learning styles. Through a challenging, integrated curriculum, our students develop the academic, vocational, and technical skills necessary to be productive members of a global marketplace. We focus on the long learning that fosters personal and professional development in a safe and supportive environment. Minuteman is committed to preparing all students for success.

**COLLEGE & CAREER OPPORTUNITIES**

**AUTOMOTIVE TECHNOLOGY**

- Work on foreign, domestic, and alternative fuel cars and trucks in a high-tech precision industry
- Inspect, repair and fine tune a wide range of vehicles alongside an ASE Master Technician in a full-service service center
- Troubleshoot complex automotive systems using advanced diagnostic equipment

**CAREER FOCUS:** Prepared for immediate employment, advanced certifications, and further education

**PAID INTERNSHIPS | CERTIFICATIONS | COMPETITIONS**

**BIOTECHNOLOGY**

- Design and perform advanced laboratory experiments to solve biological and scientific mysteries
- Use cutting-edge technology to isolate, manipulate, and alter DNA in the creation of modified organisms
- Conduct hands-on research in forensics, cell biology and genetic engineering

**CAREER FOCUS:** Prepared for immediate employment and further education

**INTERNSHIPS | COLLEGE CREDIT | COMPETITIONS**

**CARPENTRY AND CONSTRUCTION**

- Build an energy efficient house from the ground up for community sale
- Experience all aspects of residential and commercial construction including estimating, framing, roofing, and interior finishing
- Operate a wide range of power tools and work alongside professional carpenters and general contractors

**CAREER FOCUS:** Prepared for immediate employment and further education

**PAID INTERNSHIPS | COMMUNITY PROJECTS | CERTIFICATIONS**

**COSMETOLOGY AND BARBERING**

- Express individual creativity by providing a wide range of services: hair, nail, and skin care services
- Experience and gain a traditional full service salon and spa
- Work alongside professional cosmetologists using the latest techniques, trends, and salon-based products

**CAREER FOCUS:** Prepared for state licensure, immediate employment, and further education

**STATE LICENSURE | CERTIFICATIONS | COMPETITIONS**

**CULINARY ARTS AND HOSPITALITY**

- Cook and bake alongside professional chefs preparing gourmet appetizers, soups, salads, entrees, and desserts
- Join an award-winning program and gain a competitive edge in cooking and baking competitions
- Be a key part of the team that creates a unique dining experience in our student-run restaurant and bakery

**CAREER FOCUS:** Prepared for immediate employment and further education

**PAID INTERNSHIPS | COMPETITIONS | CERTIFICATIONS**

**DESIGN AND VISUAL COMMUNICATION**

- Express your unique artistic vision by creating dynamic illustrations, computer animations, and digital photography
- Design, produce, and deliver a wide range of creative promotional materials for interactive web and print media
- Showcase your unique talents by creating a digital portfolio for college and career

**CAREER FOCUS:** Prepared for immediate employment and further education

**PAID INTERNSHIPS | COLLEGE CREDIT | COMPETITIONS**

**EARLY EDUCATION AND TEACHING**

- Experience the joy of making a difference in the life of a child in our accredited early child development center
- Observe, research, and provide developmentally appropriate educational materials and activities that make learning fun and meaningful
- Influence the future of children by sharing their intellectual, social, emotional, and physical development

**CAREER FOCUS:** Prepared for immediate employment and further education

**PAID INTERNSHIPS | CERTIFICATIONS | COLLEGE CREDIT**

**ELECTRICAL**

- Control electricity to power the world
- Design and install residential and alternative energy systems for commercial and residential buildings
- Gain apprenticeship experience towards a journeyman's license while working with Master Electricians

**CAREER FOCUS:** Prepared for continuing apprenticeship, immediate employment, and further education

**APPRENTICESHIPS | PAID INTERNSHIPS | CERTIFICATIONS**

**ENVIRONMENTAL SCIENCE AND TECHNOLOGY**

- Save the planet through dynamic experiences focused on green, sustainable, and renewable resources
- Conduct field studies, experiments, and research projects with environmental professionals
- Care for animals, protect endangered species, and manage natural resources

**CAREER FOCUS:** Prepared for immediate employment and further education

**COLLEGE CREDIT | CERTIFICATIONS | COMPETITIONS**

**HEALTH ASSISTING**

- Improve the well-being of others using professional medical equipment, technology, and techniques
- Explore a wide range of health careers through practical clinical experiences and rigorous academic coursework
- Participate in clinical rotations in long-term care facilities to enhance the quality of resident care

**CAREER FOCUS:** Prepared for immediate employment and further education

**EMT | EMS CERTIFICATIONS | CNA CERTIFICATION | PAID INTERNSHIPS**

**HORTICULTURE AND LANDSCAPING TECHNOLOGY**

- Use advanced technology and equipment to grow and maintain sustainable landscapes and flats to sale produce
- Design, construct, and manage all aspects of landscaping, turf management, and greenhouse technology
- Work with experts in the field of horticulture and participate in cultural competitions

**CAREER FOCUS:** Prepared for immediate employment, advanced certifications, and further education

**PAID INTERNSHIPS | CERTIFICATIONS | SCHOLARSHIPS**

**LUMBERING AND HEATING**

- Diagnose and repair commercial and residential piping systems alongside licensed Master Plumbers
- Design and install environmentally friendly systems according to renewable energy regulations
- Build innovative and efficient boiler and gas systems

**CAREER FOCUS:** Prepared for immediate employment and further education

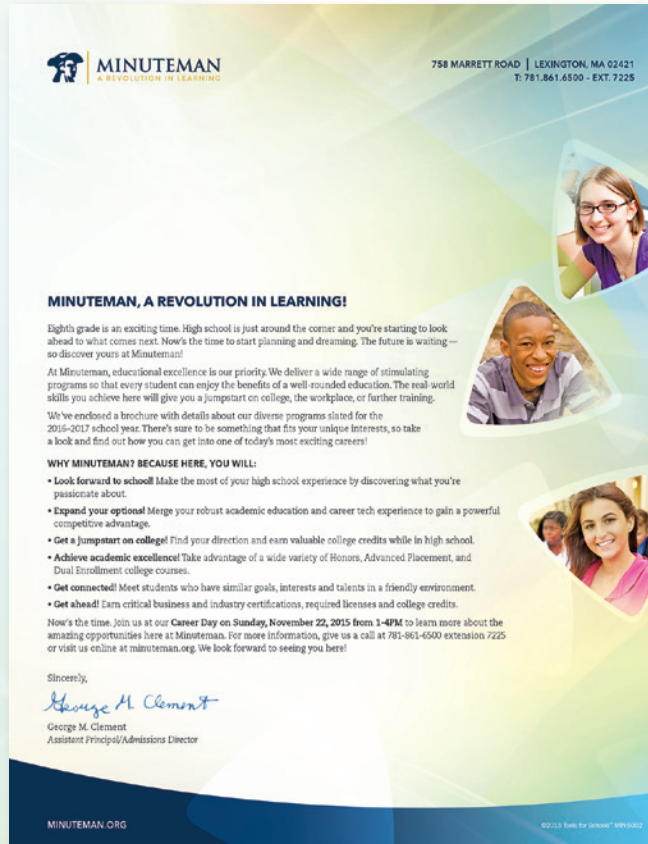
**PAID INTERNSHIPS | COMMUNITY PROJECTS | CERTIFICATIONS**



# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING



Brochure Letter and Laser Sheet

# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING



*Minuteman for a Day Postcard*

# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING

**DON'T MISS OUT!** **CAREER DAY OPEN HOUSE**  
SUNDAY, NOVEMBER 22  
1-4PM

**THE FUTURE IS WAITING—**  
SO DISCOVER YOURS AT MINUTEMAN!

**MINUTEMAN**  
A REVOLUTION IN LEARNING

758 MARRETT ROAD | LEXINGTON MA 02421  
T: 781.661.6500 - EXT:7225  
MINUTEMAN.ORG

**MISSION STATEMENT**  
Minuteman collaborates with parents, communities, and business leaders to serve a diverse student body with multiple learning styles. Through a challenging, integrated curriculum, our students develop the academic, vocational, and technical skills necessary to be productive members of a global community. We value life-long learning that fosters personal and professional development in a safe and respectful environment. Minuteman is committed to preparing all students for success.

**PLEASE JOIN US AT OUR CAREER DAY OPEN HOUSE.**

*Open House Invitation*

**MINUTEMAN**  
A REVOLUTION IN LEARNING

**CAREER DAY OPEN HOUSE**  
SUNDAY, NOVEMBER 22 | 1-4PM

**MINUTEMAN, A REVOLUTION IN LEARNING!**

**Please join us for our Career Day Open House on Sunday, November 22, 1-4pm** to see firsthand why Minuteman is the right choice for your 8th grader.

**Door Prizes and Refreshments!**

Whether your student is headed for college or straight into a great career, Minuteman will help them discover their passion and direction while still in high school.

Through robust academics, hands-on technical experience, and instructor-led coaching, your child will be empowered to invest wisely and purposefully in additional education after graduation — giving them the edge in their field, no matter what their aspirations.

**At Minuteman, educational excellence is our priority.** We deliver a wide range of stimulating programs so that every student can enjoy the benefits of a well-rounded education.

The real-world skills you achieve here will give you a jumpstart on college, the workplace, or further training.

**LOOK FORWARD TO SCHOOL!** Make the most of your high school experience by discovering what you're passionate about.

**GET A JUMPSTART ON COLLEGE!** Find your direction and earn valuable college credits while in high school.

**ACHIEVE ACADEMIC EXCELLENCE!** Take advantage of a wide variety of Honors, Advanced Placement, and Dual Enrollment college courses.

With the strong competitive advantage and valuable skills that come with a robust academic and technical education, **Minuteman is truly a revolution in learning!**

MINUTEMAN.ORG

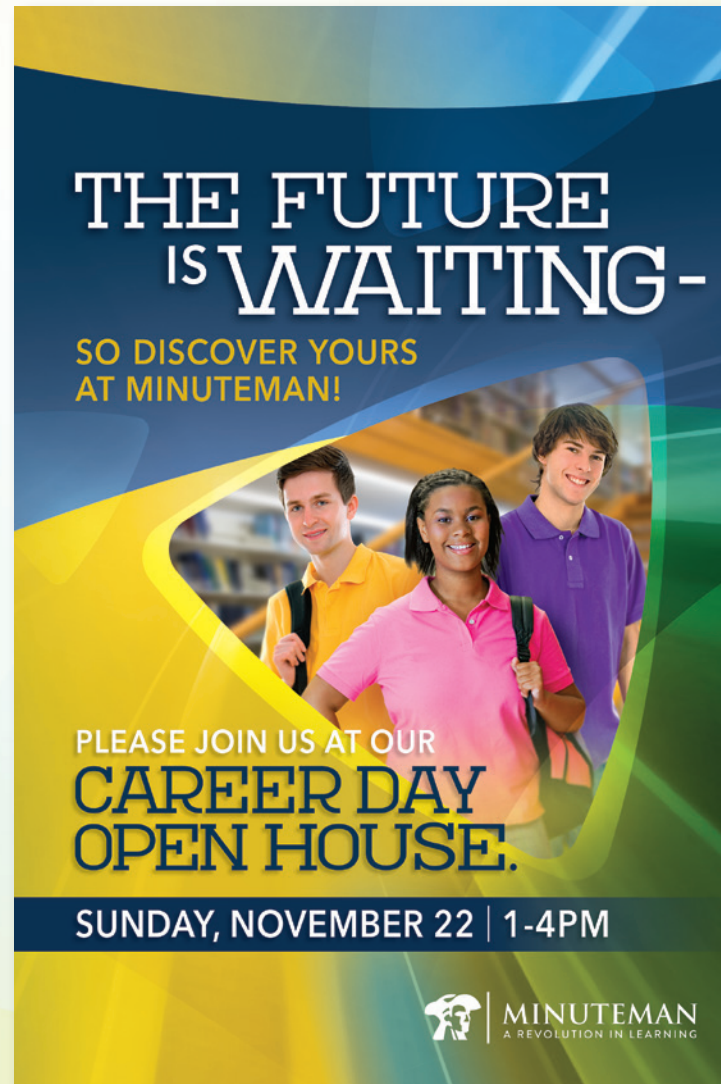


# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
A REVOLUTION IN LEARNING

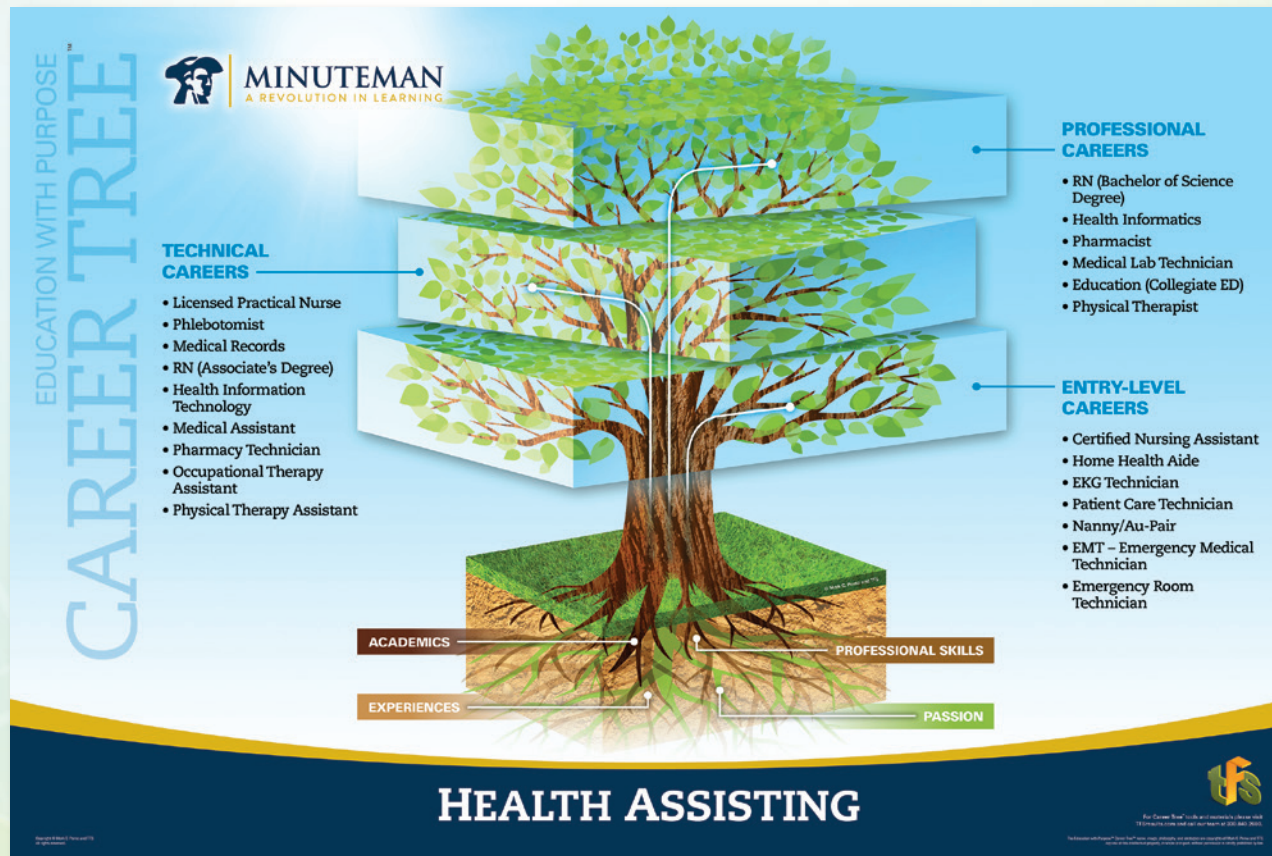
*Open House 12x18 Poster*



# MINUTEMAN BRANDING APPLICATION



**MINUTEMAN**  
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Career Tree Wall Graphic



Town	School	Presentation Date	Total	Showcase Sign Ups	Total 2015	% of 8th grade
Acton	R.J. Grey	<a href="#">10/6/15</a>	357	153	9	42.86%
Boxborough	R.J. Grey	<a href="#">10/7/2015</a>	69	30	4	43%
Arlington	Ottoson	<a href="#">10/19/15</a>	342	163	80	48%
Belmont	Chenery	<a href="#">10/21/15</a>	323	139	37	43%
Bolton	Florence Sawyer	<a href="#">10/9/15</a>	85	29	11	34%
Carlisle	Carlisle	<a href="#">10/16/15</a>	77	42	15	55%
Concord	Sanborn	<a href="#">10/15/15</a>	110	58	9	53%
Concord	Peabody	<a href="#">10/27/15</a>	91	51	9	56%
Dover	Dover	<a href="#">10/21/15</a>	98	31	8	32%
Lancaster	Luther Burbank	<a href="#">10/19/15</a>	75	37	26	49%
Lexington	Diamond	<a href="#">10/20/15</a>	259	116	20	45%
Lexington	Clarke	<a href="#">10/22/15</a>	287	105	31	37%
Lincoln	Lincoln	<a href="#">10/20/15</a>	64	24	0	38%
Needham	Pollard	<a href="#">10/27/15</a>	406	135	24	33%
Stow	Hale	<a href="#">10/9/15</a>	92	50	8	54%
Sudbury	Ephraim Curtis	<a href="#">10/14/15</a>	325	62	16	19%
Wayland	Wayland	<a href="#">10/14/15</a>	219	89	4	41%
Weston	Weston	<a href="#">11/4/15</a>	170	52	0	31%
			<b>3092</b>	<b>1366</b>	<b>302</b>	<b>44%</b>

**\*\*Number of students at the school include out of district students and metco students.**



**MINUTEMAN**  
A REVOLUTION IN LEARNING

**Educational Program Plan  
Labor Market Information Analysis**

**REVISED DECEMBER 2014**

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## INTRODUCTION

This REVISED Education Program Plan is being submitted to the Department of Elementary and Secondary Education (DESE) for comment and approval. The Minuteman Regional Vocational Technical School District (MRVTSD) has submitted a Preliminary Design Program to the Massachusetts School Building Authority (MSBA) as a required component of our Feasibility Study Agreement. The Feasibility Study agreement expires June 30, 2016 and no further extensions will be granted to the District.

On June 17, 2014, the District School Committee voted a FINAL Design Enrollment of 628 students. The Minuteman Education Program Plan Subcommittee was reconvened in the summer of 2014 and met 4 times to revise the original education program plan submitted in October of 2013. The School Committee held a special meeting on September 10, 2014, during which the Superintendent presented this revised Education Program Plan. The District School Committee voted to accept the revised plan as presented and as recommended by the Education Program Plan Subcommittee. The plan is summarized below:

PROPOSED ACADEMIES AND PROGRAMS/CIP CODES	
Engineering, Construction, and Trades Academy	Life Sciences and Services Academy
Advanced Manufacturing (New) 48.0501 / 48.0599	Biotechnology 15.0401
Robotics Engineering Automation 15.0000 / 15.0403	Environmental Science & Technology 15.0507
Programming & Web Development 11.0201	Horticulture 1.0601
Design & Visual Communications 50.0401	Culinary/Hospitality 12.0500/52.0901
Multi-Media Engineering (New) 09.0701	Health Occupations 51.0000
Carpentry 46.0201	Early Education & Care 13.1210
Electrical 46.0302	Cosmetology/Barbering 12.0404 / 12.0402
Plumbing 46.0503 / 47.0201	
Automotive Technology 47.0604	

## **REVISED EDUCATION PROGRAM RECOMMENDATIONS**

- Two programs: Marketing (CIP 19.0203) and Telecommunications/fiber optics (CIP 15.0305) are recommended for closure. Both programs have low levels of member-town enrollment and many of the Telecommunications competencies are addressed in the electrical program.
- Five programs: Barbering (CIP 12.0402), Hospitality (CIP 52.0901), Robotics (CIP 15.0403), Metal Fabrication and Joining Technologies (CIP 48.0599), and HVAC/R (CIP 47.0201) are aligned with or will be assimilated into existing or new programs. These programs have experienced lower than average member town enrollment, less than average career outcomes (job placement, college placement and certifications obtained), and most competencies can be developed in analogous programs (barbering in cosmetology, hospitality in culinary arts, robotics in engineering, welding in advanced manufacturing, and HVAC/R in plumbing).
- The movement towards an Academy Model provides the opportunity to deliver CVTE Core Competencies within clusters of programs inside an Academy rather than in separate programs. This provides a level of efficiency and minimizes duplicative curriculum being offered. We believe this model will also provide for higher level competency attainment by upperclassmen as instruction will be able to focus on specific skills in the later part of the students high school career.
- The administration has proposed opening new programs: Advanced Manufacturing (CIP 48.0501) and Multi-media Engineering (CIP 09.0701) in the Engineering, Construction, and Trades Academy. The Multi-Media Engineering program would operate under the CIP code for Radio and TV Broadcasting. The administration's validation for these programs is supported in the data. Multi-media engineering encompasses the Creative Industries, provides a variety of regional career opportunities and student interest is clear. The opportunities for students in Advanced Manufacturing are well documented in a number of studies. The program of Advanced Manufacturing will prepare students in Machining, Manufacturing, Fabrication and Welding.
- For the Life Sciences and Services Academy, while the overall data suggest that wages in the occupations associated with many of these programs are average, there are attractive career paths in occupations that will remain in demand. Moreover, these programs are among the most popular at Minuteman (as measured by total member-town enrollment), particularly for female students, therefore supporting an overall gender balance.

The District seeks DESE endorsement of this plan as required under the MSBA Feasibility Study agreement. Once initial endorsement has been received, the District will submit closure plans for the identified programs and will initiate a timeline for the approval of two new programs. The determining factor in the timeline for the opening of new programs, is the approval of a building project by all 16 member district communities. That vote is scheduled for town meeting "season"; the spring of 2016.

The planning process underway at Minuteman now requires the timely input of DESE. All levels of the Minuteman Community have participated in numerous meetings and work sessions over the past few months and years to develop an educational plan and supporting facility design that will sustain our mission long into the future.

Minuteman acknowledges the work of several key assets:



Minuteman Regional Vocational Technical School District Education Program Plan

- The Minuteman Educational Program Plan Sub-committee was formed in the Spring of 2013 with the specific charge to review these data and recommend a final education program plan to the full School

Committee in the Fall of 2013. The challenge of proposing a plan for 435 students and 800 students made the process complex. The full school committee voted the original educational program plan October 8, 2013. As noted the District will not approve a school building project based upon a large out of district enrollment. The Education Program Plan Task Force was re-convened in the summer of 2014 to develop a plan for a smaller school.

- Labor Market Works founder, Robert Vinson<sup>1</sup>, reviewed labor market information and provided a comprehensive overview of job outlook projections and wage data in our Career Academies and related occupations.
- The restructuring of the General Advisory Board (GAB) in 2009 has provided a pro-active group of employers and business leaders whose analyses of this data and review of its implications have been integrated into each academy comment section.<sup>2</sup>
- Program recommendations and implications have been developed through the lens of our “Six Indicators” with the assistance of our General Advisory Board members over the past 5 years.
- Additional meetings, discussions and reviews by workforce education and development professionals within Commonwealth Corporation, The Center for Labor Market Studies at Northeastern University, and the Department of Labor and Workforce Development have provided additional insight into this plan.<sup>3</sup>

This report draws on standard state labor market information sources including: the Massachusetts Employment projections between 2010 and 2020 and the Massachusetts Occupational Wage Survey for Employment and Wages, May, 2012

Both data sources are produced by the Massachusetts Department of Labor and Workforce Development.<sup>4</sup> In addition, information from the US Department of Labor<sup>5</sup>, specifically ONET<sup>6</sup> was used to create the Crosswalk table between, Chapter 74 programs, related occupations, and major industry employers.

Local and regional labor market information was provided by employers serving on Minuteman Advisory Committees, or comes from data published by the Commonwealth Corporation, a quasi-public corporation within the Massachusetts Executive Office of Labor and Workforce Development.

## **Minuteman Mission**

Minuteman collaborates with parents, communities, and business leaders to serve a diverse student body with multiple learning styles. Through a challenging, integrated curriculum our students develop the academic, vocational, and technical skills necessary to be productive members of a global community. We value life-long learning that fosters personal and professional development in a safe and respectful environment. Minuteman is committed to preparing all students for success.

## **Minuteman Philosophy**

Career and Vocational/Technical Education is responsive to the economic needs of the workplace and the individual. By being engaged with employers, business, and post-secondary institutions, the graduates of Minuteman will be better prepared to contribute to the strength of our nation and the quality of life for its citizens. Minuteman recognizes the attainment of skills needed in the global economy is best accomplished through understanding the unique learning styles that lead to performance and individual student success.

## **Six Indicators of Educational Program Development**

As Minuteman's mission prepares individuals for a global economy, it must consider many variables when making adjustments to the type and scope of CVTE programming, including post-secondary program development, while being attentive to M.G.L. Chapter 74 regulations.<sup>7</sup>

Our investments in new programs are based on a review of labor market data including: job growth, living wage data, and student interest. In addition, Minuteman considers emerging technologies and their impact on occupations, other existing training sources outside the district, but available to learners, and the strength (or potential strength) of an industry partner. The partner may be a post-secondary institution, a community based organization, public agency, quasi-public agency, or regional employer. A seventh indicator, student placement, is considered when a program may be eliminated.

1. Job Growth
2. Opportunity for a Living Wage
3. Student Interest
4. The Potential of "Emerging" Occupations/Competencies
5. Existing Training Sources in proximity to the District
6. Presence or Potential of Strategic Industry Partner

While workforce development data (job growth and living wage) are historical in nature, emerging occupations data are projected and require a mixture of research, risk, common sense, and industry advice. Student interest is measured in (historical) enrollment data for existing programs and in student interest survey data. The fifth indicator relates to the availability of similar training programs in the area. This is a significant market factor that is often overlooked when program development decisions are being made. Minuteman reviews the capacity and enrollment trends of similar programs in the region prior to investing. For example, if 8 schools are graduating 12 students per year and the region needs 50 new auto mechanics per year, then the region is training more students than can be absorbed by the market. The sixth indicator is the relative strength of an industry partner that seeks to support expansion. No single variable is a final determinant for a program being launched or terminated.

Other "indicators" or variables that are considered by administration when making an investment in a new program include nontraditional student interest as well as the opportunity for public interaction.

## **Labor Market Overview**

The U.S. and Massachusetts labor markets began pulling out of the last recession towards the beginning of 2010. As a result, the employment outlook for Massachusetts and most of the programs offered by Minuteman High School reflect a significant improvement from earlier projections. At the same time, the majority of job openings in the (62.1%) in the Massachusetts economy will result from replacement needs rather than growth.

Between 2010 and 2020, the Massachusetts economy is projected to add 461,725 jobs, a growth rate of 13.7%. While some may view this as an optimistic forecast, the projected rate is significantly higher than the 6.3 % growth rate from the earlier 2006 to 2016 projections. In total, over 1.25 million openings are anticipated during the 2010-2020 projection period.

## **Post-Graduate Programs**

In addition to high school offerings, Minuteman offers post-graduate programs through the Minuteman Technical Institute (MTI). Most programs are 1-2 years in length with sessions beginning in September and February.<sup>8</sup> The following PG Programs are offered through MTI, on site during the day in dedicated shop spaces: Automotive Technology, Building Construction Technology (Carpentry), Cosmetology, Dental Assisting, and Bio-Manufacturing. Automotive and Building Construction Technology are offered in cooperation with Middlesex Community College and provide Associate Degree opportunities to post-grad students.

Other opportunities for post-graduate students are provided on a space available basis in Electrical Wiring, Heating/Ventilation/Air Conditioning/Refrigeration, Plumbing, Culinary Arts/Baking/Hospitality Management, and Horticulture & Landscape Technology.

A significant concern has arisen in the MSBA process and regulation regarding Post Graduate Education. Simply put, MSBA WILL NOT participate in Chapter 74 approved post-graduate facility development. Even though DESE includes these PG students in their mission of delivering high quality CVTE in the Commonwealth, the agency created to support the construction of CVTE learning environments, has no authority or obligation to work with any School District in providing this much needed training.



## **EXECUTIVE SUMMARY: LABOR MARKET INFORMATION ANALYSIS**

- The Labor Market Information Analysis, conducted for the Minuteman Regional Vocational Technical School District (MRVTSD) reviewed each of the Chapter 74 programs within the existing three (3) Clusters: Trades and Transportation, Bioscience and Engineering, and Human, Business and Commercial Services. The analyses also included the PROPOSED Chapter 74 programs in the PROPOSED two (2) Career Academies: The Engineering, Construction, and Trades Academy and Life Sciences and Services Academy. The Summary is organized by the TWO PROPOSED Career Academies.
- The principal data sources included the Massachusetts Occupational Employment Projections, 2010-2020, and Occupational Wage Survey, May 2012, produced by the Massachusetts Department of Labor and Workforce Development. In addition, the Industry Occupation Matrix and O\*NET from the US Department of Labor were also integral to the analysis. O\*NET is the career information and job analysis tool that replaced the Dictionary of Occupational Titles (DOT).
- There are more than 60 specific industries related to existing and proposed Chapter 74 Programs offered by MRVTSD.
- While the labor market outlook for most of the Chapter 74 programs is positive, there is a wide variation across programs and related occupations. The variations are related to the size of specific occupations, projected growth rates, the total number of annual openings and the importance of openings due to growth or replacement. Perhaps most significantly is the large variation in both entry level and median annual wages.

### **Engineering, Construction, and Trades Academy**

- Most of the occupations in this academy are characterized by moderate growth rates, with openings due primarily to replacement. Plumbers, Electricians and Heating Ventilation Air Conditioning Mechanics (HVAC/R) are among those occupations with the largest number of projected openings.
- An exception within this academy occurs among Automotive Service Technicians and Carpenters. There is very little growth anticipated for these two occupations, but due to their size, they have the largest number of projected openings. Almost all of the openings will be due to replacement.
- A positive feature of this academy is the 2012 entry level wages, with Carpenters at \$36,180, Telecommunications Equipment Installers at \$38,980, HVAC Mechanics at \$39,180, Electricians at \$41,110, and Plumbers at \$42,630.





- In the Programming and Web Design area, the labor market outlook for the three occupations related to Computer Programming is quite positive. Computer Support Specialists are expected to add just over 4,000 jobs during the projection period, followed by Other Computer Specialists, such as Information Security Analyst and Web Designers (2,751 jobs) and Computer Programmers (1,255 jobs). Each IT course offered at Minuteman will include knowledge of security checks and processes
- Another positive aspect of the above occupations is the wages. Other Computer Specialists (Information Security Analyst and Web Designers) reported the highest entry level wages (\$61,220), followed by Computer Programmers (\$52,750) and Computer Support Specialists (\$38,680).
- Within Design and Visual Communication, Graphic Designers are projected to add 1,221 jobs which translate to 360 annual openings. The entry level wage for this occupation is \$36,120.
- The largest of the six occupations related to Multi-Media Engineering, Audio and Video Technicians, is expected to add nearly 600 jobs over the projection period, while the second largest, Multi-Media Artists, is anticipating an increase of 218 jobs. All of the remaining occupations including Set Designers, Sound and Engineering Technicians, and Camera and Video Operators, are expected to add fewer than 100 jobs over the projections period. The exception is Film and Video Editors, with 121 jobs.  
Among the six occupations related to Entertainment Engineering, entry level wages range from \$24,300 (Sound Engineering Technicians) to \$41,850 (Multi-Media Artists).
- The three occupations related to Robotics and Automation include Manufacturing Production Technicians, Mechanical Engineering Technicians and Electro-Mechanical Technicians. These occupations are projected to grow slightly below the statewide rate of 13.7%. As these occupations are also small, fewer than 50 annual openings are expected.
- Three of the five occupations related to Engineering are expected to grow slowly. However, the biggest occupation, Electrical and Electronic Technicians, is projected to add 558 jobs, with almost 200 annual openings.
- While the growth prospects for the occupations in this academy are modest, the wages are a draw for program graduates. Entry level wages for the two Technician occupations range from \$41,370 (Mechanical Engineering Technicians) to \$42,450 (Electrical and Electronic Technicians).

### **Life Sciences and Services Academy**

- The labor market outlook for the six occupations related to Bioscience and Bio-Manufacturing is quite bright. The growth rate for each occupation exceeds the state wide average of 13.7%. The largest occupation, Biological Technicians, is expected to add nearly 1,100 jobs, with 278 annual openings. The three occupations related to Bio Manufacturing (Medical Equipment Repairers,



Medical Equipment Preparers and Medical Appliance Technicians), though small, have among the fastest projected growth rates for all occupations.

- The wages for occupations in this group are also attractive. Entry level wages for the five Technician and Repair occupations range from just under \$30,000 to \$35,460. The highest entry wage is for Biological Scientists at \$61,640. This occupation, however, requires at least a Bachelor's Degree.
- The dominant occupation within Horticulture and Landscaping is Landscapers and Groundskeepers. It is one of the Commonwealth's largest occupations with a projected employment increase of nearly 6,000 jobs. This translates to over 1,000 annual openings. The wages, however, are quite modest with entry level wages of \$23,520 and a median wage of \$31,440. The wages reflect in part the seasonal nature of landscaping and grounds keeping work.
- The growth rate for three of the four Environmental Technology occupations (Environmental Engineering Technicians, Environmental Science and Protection Technicians, and Hazardous Waste Removal Workers) is expected to grow faster than the Commonwealth, as a whole. These are small occupations, however, with the range of annual openings being between 30 and 70.
- Entry lever wages range for the above occupations range from \$28,080 (Environmental Science and Protection Technicians) to \$35,100 for Environmental Engineering Technicians. It should be noted that these two occupations typically require an Associate's Degree.
- Health Assisting, Cosmetology and Early Childhood Education are the three programs with the most absolute openings in related occupations. Among specific occupations with large numbers of openings (exceeding 1,000 annually) are Child Care Workers, Nurse's Aides, Personal /Home Care Aides and Home Health Aides. In addition, Hairdressers and Cosmetologists is also an occupation with a large number of openings, approaching 800 annually.
- The wages for some occupations in this academy are modest, at best. Median Wages for the three Aide and Cosmetologist occupations were less than \$29,000 while the median wage for Child Care Workers was under \$25,000. One notable exception was Kindergarten Teachers with a median wage above \$60,000.
- Culinary Arts occupations were characterized by below average growth and low entry wages. In fact, two occupations (Chef's and Head Cooks, and Fast Food Cooks) were actually expected to decline. Job openings will exist and be due primarily to replacement. The one occupation with an above average growth rate was Institution and Cafeteria Cooks.
- Most of the Culinary occupations reported entry level wages between \$17,000 and \$20,000, and median wages between \$19,000 and \$30,000. The one exception was Chefs and Head cooks with an entry wage of \$37,820.



- Modest growth was also projected for most occupations related to Hospitality and Tourism with entry level wages running between \$19,430 (Hotel and Desk Clerks) and Travel Agents (\$28,670). Minuteman’s program trains students in the many fields of Hospitality and Tourism as well as prepares them for further education.
- The notable exception in the Hospitality field was Meeting and Convention Planners. This occupation has rapid projected growth (53.5%), the largest number of annual openings (nearly 1,100), and an entry level wage of \$37,680.

## INDUSTRIES AND OCCUPATIONS RELATED TO CHAPTER 74 PROGRAMS

A list of detailed industries related to at least one Chapter 74 Program is presented in Table A, shown in the Appendix. As the list indicates, there are more than 60 detailed industries relevant to programs offered by Minuteman range of industries relevant to these programs. The industries included in Table A provide a framework for connecting industries related to Minuteman programs with local employers.

The difference between industries and occupations is that industries are where people work and occupations are what people do. To amplify the relationship between specific programs, related occupations and key industries, a cross reference between each of the Chapter 74 programs offered by Minuteman is presented in Table B, shown in the Appendix. This crosswalk is especially important, since many instructional programs typically prepare students for more than one occupation,

There are essentially two distinct groups of Chapter 74 programs included in Table B. The first group consists of programs where there is a direct connection to one or two specific occupations and a small number of key industries. This group of programs would include as examples Construction Trades, Early Childhood Education, and Cosmetology,. The labor market advantage of programs in this group is that it is easier to identify specific employers and potential employment opportunities. The disadvantage is that if the key industries are experiencing labor market difficulties, job placement opportunities can quickly become limited.

Many of remaining programs, particularly Multi-Media Engineering, are characterized as having a number of different occupational entry points and a much larger array of industries that are related to the programs. The labor market advantage of these programs is there are a wider set of occupations and industries that might potentially need new graduates. Furthermore, if one or two key industries are experiencing labor market difficulties there are likely to be placement opportunities in other related industries. The disadvantage is that program staff will need to work with a much larger and broader employer network than for those programs with more direct occupational and industry connections.

The Health Assisting and Culinary Arts programs share features of both groups. While Health



**Educational Program Plan and Labor Market Information Analysis**

Assisting graduates will be able to focus on a relatively small group of Health related industries, there are a number of potentially different occupational entry points as indicated in Table B. With regard to



**Educational Program Plan and Labor Market Information Analysis**

Culinary Arts, there are a number of variations with regard to occupational options (e.g.; Chefs, Institutional Cooks, and Short-Order Cooks etc.) but a narrow set of industries associated with Hospitality that would potentially hire graduates from a Culinary Arts program.





## EMPLOYMENT PROJECTIONS AND WAGE SUMMARIES

### A. Engineering, Construction, & Trades Academy

#### 1. Occupational Employment Projections Summary 2010-2020

Table 1 and Table 2 provide employment projections for the Engineering, Construction, and Trades Academy. The overall employment change and the annual number of openings due to both growth and replacement are included in Table 1. Information pertaining to the projected growth and the share of openings related to growth and replacement are included in Table 2.

<b>TABLE 1                      MASSACHUSETTS EMPLOYMENT PROJECTIONS                      2010-2020                      ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New openings	Annual Replacement	Annual Total Openings
<b>Automotive Service Technicians</b>	622	62	451	513
<b>Carpenters</b>	280	28	451	479
<b>Plumbers &amp; Pipefitters</b>	1,170	117	291	408
<b>Electricians</b>	1,264	126	311	437
<b>Telecommunications Equipment Installers</b>	513	51	58	109
<b>Security and Alarm Installers</b>	318	32	36	68
<b>HVAC Mechanics &amp; Installers</b>	994	99	136	235
<b>Valve and Control Installers</b>	-17	0	18	18
<b>Helpers, Carpenters</b>	276	28	26	54
<b>Helpers, Plumbers</b>	134	13	12	25
<b>Helpers, Electricians</b>	232	23	41	64
<b>Sheet Metal Workers</b>	188	19	30	49
<b>Structural Metal Workers</b>	268	27	23	50
<b>Welders, Cutters, Soldering</b>	479	48	69	117
<b>TOTAL, ALL OCCUPATIONS</b>	461,725	46,170	78,909	125,079

The overall outlook for this academy is much improved from earlier projections. This likely reflects an improvement in the economy and specifically the private and commercial real estate and housing markets. As Table 1 indicates, the projected employment change is most pronounced for Electricians (1,264), Plumbers and Pipefitters (1,170) and HVAC Mechanics (994). A slightly different



picture emerges with regard to annual job openings. Among the Construction Trade occupations, Carpenters has the most projected annual openings (479), followed by Electricians (437), Plumbers and Pipefitters (408) and HVAC Mechanics (235). While Carpenter has a minimal growth rate (1.3%), it is the largest Trade occupation which accounts for it having the most openings. It should be noted that the projected openings for Construction are due almost entirely to replacement.

TABLE 2  
MASSACHUSETTS EMPLOYMENT PROJECTIONS  
2010-2020  
ENGINEERING CONSTRUCTION & TRADES OCCUPATIONS

Description	Percent Employment Change 2010-2020	Percent Openings Due To Growth	Percent Openings Due Replacement
<b>Automotive Service Technicians</b>	3.6	12.1	87.9
<b>Carpenters</b>	1.3	5.8	94.2
<b>Plumbers &amp; Pipefitters</b>	11.6	28.7	71.3
<b>Electricians</b>	11.0	28.9	71.1
<b>Telecommunications Equipment Installers</b>	13.9	46.8	53.2
<b>Security and Alarm Installers</b>	21.7	47.1	52.9
<b>HVAC Mechanics &amp; Installers</b>	12.9	42.1	57.9
<b>Valve and Control Installers</b>	-7.9	0	100.0
<b>Helpers, Carpenters</b>	27.7	51.9	48.1
<b>Helpers, Plumbers</b>	28.5	52.0	48.0
<b>Helpers, Electricians</b>	14.9	36.0	64.0
<b>Sheet Metal Workers</b>	10.5	38.8	61.2
<b>Structural Metal Workers</b>	27.4	54.0	46.0
<b>Welders, Cutters, Soldering</b>	18.6	41.0	59.0
<b>TOTAL, ALL OCCUPATIONS</b>	13.7	37.9	62.1

A closer look at Table 2 indicates that with the exception of Carpenters, most of the Trade occupations, including Sheet Metal workers and Welders are near the overall projected growth rate of 13.7% for the entire Massachusetts economy. However there are several smaller occupations with growth rate well in excess of the statewide rate including Helpers for both Plumbers (28.5%) and Carpenters (37.7%). In addition, Structural Metal Workers (27.4%) and Security and Alarm Installers (21.7%) are projected to grow much faster than the state. Conversely, the one occupation expected to decline is Valve and Control Installers. This may due in part that Valve and Control Installation is becoming a skill imbedded in other occupations such as HVAC mechanics rather than functioning as a discreet occupation.



Automotive Service Technicians have an employment outlook that is very similar to Carpenters. The projected growth rate is quite small (3.6%) but this occupation has the largest number of projected openings (513) in the academy. Automotive Service Technicians is the second largest occupation, which accounts for the large number of openings.

The skills needed for this occupation are constantly evolving. Increased specialization along with a greater emphasis on electronics has heightened the importance of proper training. Individuals certified in multiple specialties such as engine repair, electrical systems, and brake systems will be seen as most desirable by prospective employers. Furthermore, nearly one-third of all Auto Service Technicians between the ages of 25-44 have some post-secondary education, with many holding an Associate's Degree.

The labor market outlook for the three occupations that are associated with Computer Programming and Web Design are quite positive. Computer Support Specialists, the largest occupation in the group is projected to increase employment by over 4,000 jobs or 21.0 percent. This translates into 910 annual openings, with 405 related to growth. Another Computer Specialist occupation, Information Security and Web Design, is the fastest growing occupation with employment expected to increase by 29.9%, representing an employment increase of 2,751 jobs. Annual openings for this occupation will total 411, with two thirds of the openings related to growth. The third occupation, Computer Programmers has a growth rate similar to the state (13.5%), with employment expanding by 1,255 jobs. A total of 342 annual openings are anticipated, with the majority related to replacement.

The outlook for Graphics Designers (which includes Video Games) is comparable to the state as whole. During the projections period, Graphic Designers are expected to grow by 15.9%, an increase of 1,221 jobs representing 360 annual openings. Most of the projected openings (238) are due to replacement. The growth rate for Commercial and Industrial Designers (19.5%) represents an employment increase of 148 jobs and 46 annual openings.

With the exception of Camera and Video Operators, all of the occupations related to Multi Media Engineering are expected to grow as fast or faster than the overall labor market. Audio and Video Technicians (22.6%), Set and Exhibit Designers (22.0%) and Film and Video Editors (20.3%), are all well above the state wide rate of 13.7%. The largest increase belongs to Audio and Video Technicians (579), followed by Film and Video Editors (121) and Set and Exhibit Designers (74). The respective numbers of annual openings are 131, 23, and 17.

Although the growth rate for Multi Media Artists is lower (11.9%), the employment change of 218 is the second largest of the Entertainment Technology occupations, with 66 annual openings. The growth rate for Sound Engineering Technicians of 15.6% represents an employment increase of 73 jobs, with 20 annual openings.

The projected growth rates for the three occupations related to Robotics and Automation Technology, manufacturing Productions Technicians (11.6%), Mechanical Engineering technicians (11.3%) and Electro-Mechanical Technicians (10.3%) are all slightly below the statewide growth rate of 13.7%. The respective increases in employment are 97, 172 and 125. As these occupations are small, fewer than 50 annual openings are available for each occupation. It appears that productivity gains

associated with automation and improved manufacturing processes, including the use of Robotics will to a large extent limit the demand for these occupations. If however, the application of robotics technology moves further into areas that are related to human safety, such as drones or removing debris and hazardous materials, the outlook could improve.

With the exception of Telecommunications Installers (13.9%), the remaining occupations related to Engineering Technology are all expected to fall below the statewide growth rate. The largest occupation, Electrical and Electronic occupations while anticipating modest growth (7.9%) it is expected to add 558 jobs over the projections period, representing almost 200 annual openings. The number of Telecommunications Installers is expected to grow by 513 jobs, with a little over 100 annual openings. The Computer and Office Machine repairers are expected to add 133 jobs as compared to just 42 for Home Equipment Installers.

<b>TABLE 3 MASSACHUSETTS EMPLOYMENT PROJECTIONS 2010-2020 ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>				
<b>Description</b>	<b>Employment Change 2010-2020</b>	<b>Annual New Openings</b>	<b>Annual Replacement</b>	<b>Annual Total Openings</b>
<b>PROGRAMMING AND WEB DESIGN</b>				
<b>Computer Programmers</b>	1,255	126	216	342
<b>Computer Support Specialists</b>	4,047	405	505	910
<b>Information Security and Web Design</b>	2,751	275	136	411

<b>TABLE 4 MASSACHUSETTS EMPLOYMENT PROJECTIONS 2010-2020 ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>				
<b>Description</b>	<b>Employment Change 2010-2020</b>	<b>Annual New Openings</b>	<b>Annual Replacement</b>	<b>Annual Total Openings</b>
<b>DESIGN AND VISUAL COMMUNICATION</b>				
<b>Graphic Designers (including Video Games)</b>	1,221	122	238	360
<b>Commercial and Industrial Designer</b>	148	15	31	46
<b>ENTERTAINMENT TECHNOLOGY</b>				
<b>Set and Exhibit Designers</b>	74	7	10	17
<b>Multi-media Artists</b>	218	22	44	66
<b>Audio and Video Technicians</b>	579	58	73	131
<b>Film and Video Editors</b>	121	12	11	23
<b>Camera and Video Operators</b>	50	5	12	17
<b>Sound Engineering Technicians</b>	73	7	13	20



<b>TABLE 5            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010-2020            ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Annual Replacement	Annual Total Openings
<b>ROBOTICS AND AUTOMATIC TECHNOLOGY</b>				
Electro-Mechanical Technicians	125	12	23	35
Mechanical Engineering Technicians	172	17	29	46
Manufacturing Production Technicians	97	10	16	26
<b>ENGINEERING TECHNOLOGY</b>				
Electrical and Electronic Technicians	558	56	134	190
Home Entertainment Installers	42	4	24	28
Telecommunications Installers	513	51	58	109
Computer and Office Machine Repairers	133	13	76	89

<b>TABLE 6            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2020-2020            ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>			
Description	Percent Employment Change 2010-2020	Percent Openings Due To Growth	Percent Openings Due Replacement
<b>PROGRAMMING AND WEB DESIGN</b>			
Computer Programmers	13.5	36.8	63.2
Computer Support Specialists	21.0	44.5	55.5
Information Security and Web design	29.9	67.0	33.0
<b>DESIGN AND VISUAL COMMUNICATION</b>			
Graphic Designers(includes Video Games)	15.9	33.9	66.1
Commercial and Industrial Designers	19.5	32.6	67.4
<b>MULTI-MEDIA ENGINEERING</b>			
Set and Exhibit Designers	22.0	41.1	58.9
Multi-Media Artists	11.9	33.3	66.7
Audio and Video Technicians	22.6	44.3	55.7
Film and Video Editors	20.3	52.2	4.8
Camera and Video Operators	7.9	29.4	70.6
Sound Technicians	15.6	35.0	65.0
<b>ROBOTICS ENGINEERING AUTOMATION</b>			
Electro-Mechanical Technicians	10.3	34.3	65.7
Mechanical Engineering Technicians	11.3	37.0	63.0
Manufacturing Production Technicians	11.6	38.5	61.5
Electrical and Electronic Technicians	7.9	29.5	70.5
Home Entertainment Installers	4.2	14.3	85.7
Telecommunications Installers	13.9	46.8	54.2





<b>Computer and Office Machine Repairers</b>	4.3	14.6	85.4
<b>TOTAL, ALL OCCUPATIONS</b>	13.7	37.9	62.1

2. Employment and Wage Summary May 2012

The following summary pertains to employment and wages for Carpentry, Plumbing, Welding, HVAC/R, Automotive Technology, and Electrical. Both the Entry Level and Median Annual Wages are included in Table 7.

\*Currently, many of Minuteman’s students in the Trades enter into the Union (State-wide Articulation with the Carpenters Union), or an Apprenticeship Program (HVAC, Plumbing, and Electrical) upon graduation.

<b>TABLE 7 MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>			
<b>Occupation</b>	<b>Projected Employment Level—2020</b>	<b>Entry Annual Wage May 2012</b>	<b>Median Annual Wage May 2012</b>
<b>Automotive Service Technicians</b>	18,056	\$28,110	\$41,110
<b>Carpenters</b>	21,558	\$36,180	\$53,360
<b>Plumbers &amp; Pipefitters</b>	11,247	\$42,630	\$62,790
<b>Electricians</b>	12,790	\$41,110	\$59,420
<b>Telecommunications Equipment Installers</b>	8,477	\$38,980	\$61,700
<b>Security and Alarm Installers</b>	1,787	\$38,290	\$52,130
<b>HVAC Mechanics &amp; Installers</b>	8,690	\$39,180	\$56,290
<b>Valve and Control Installers</b>	877	\$38,760	\$60,450
<b>Helpers, Carpenters</b>	1,273	\$27,220	\$35,550
<b>Helpers, Plumbers</b>	605	\$17,590	\$28,840
<b>Helpers, Electricians</b>	1,794	\$24,900	\$33,230
<b>Sheet Metal Workers</b>	1,985	\$32,460	\$57,050
<b>Structural Metal Workers</b>	1,463	\$29,360	\$40,950
<b>Welders, Cutters, Soldering</b>	3,054	\$31,290	\$43,840

With the exception of the Helper occupations and Structural Metal Workers, all of the Construction Trade occupations have entry level wages exceeding \$30,000 with most of the occupations exceeding \$36,000. At the very top of this group are Plumbers and Pipefitters (\$42,630), Electricians, (\$41,110) and HVAC Mechanics (\$39,180). A review of the median annual wage reveals a similar relationship. The majority of the occupations in this academy exceed \$52,000, with Plumbers and Pipefitters (\$62,790) and Telecommunication Equipment Installers (\$61,700) leading the way.

The entry level wages for Structural Metal Workers was \$29,360, while for Welders it was



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\$31,290. The respective median wages were \$40,950 and \$43,840. Among the Helper occupations, Carpenters had the highest entry wage (\$27,220) followed by Electricians (\$24,900) and Plumbers (\$17,590). The median wage for Carpenter Helpers was \$35,550, with Electrician Helper (\$33,320)

slightly behind. The median wage for Plumber Helpers was \$28,840. With regard to Automotive Service Technicians, the entry level wage was \$28,110 as compared to the median wage of \$41,110. It is likely that those Technicians with multiple specialties and certifications will command higher wages. Tables 8 through 27 provide employment projections information for the Programming and Web Design, Design and Visual Communication, Entertainment Technology, and Robotics Engineering Automation Programs.

Although the labor market outlook for Engineering Technology program graduates is mixed, the wages remain an attractive feature, especially for the Computer Programming and Web Design occupations. The entry level wage for Other Computer Specialists (Information Security and Web Designers) is \$61,220, followed by Computer Programmers (\$52,750) and Computer Support Specialists (\$38,680). The median wage of \$88,360 for Information Security and Web Designers is the highest of all occupations in the entire Engineering Technology Academy. The median wages for both Computer Programmers (\$76,270) and Computer Support Specialists (\$56,580) are also well paying.

All of the Technician occupations related to both Robotics and Engineering Technician occupations have entry level wages that exceed \$37,000, with Electronic Technicians (\$42,450) and Electro-Mechanical Technicians (\$41,370) at the top. With regard to median wages, all but Mechanical Engineering Technicians exceed \$55,000. At the top end are Telecommunications Equipment Installers and Repairers (\$61,780). The entry level wages for Home Entertainment Installers (\$25,310) and Computer and Office Machine repairers \$28,690) are at the lower end of this queue. The respective median wages are \$47,780 and \$44,830.

The very large Graphics Designer occupation reported an entry level wage of \$36,120 and a median wage of \$50,410. Among the remaining occupations in the Design and Multi Media Engineering programs, Commercial Designers was at the top, with a median wage of \$65,710 followed by Multi-Media Artists (\$62,460). Set Designers and Film and Video Editors both had median wages in excess of \$58,100. The remaining occupations reported median wages for Audio and Video Technicians (\$47,170), Sound Engineering Technicians (\$40,010) and Camera and Video Operators (\$37,920). At the entry level, wages ranged from a low of \$24,300 for Sound Engineering Technicians to a high of \$43,800 for Commercial and Industrial Designers.

<b>TABLE 8 MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES ENGINEERING CONSTRUCTION &amp; TRADES OCCUPATIONS</b>			
<b>Description</b>	<b>Projected Employment Level - 2020</b>	<b>Entry Annual Wage May 2012</b>	<b>Median Annual Wage May 2012</b>
<b>PROGRAMMING AND WEB DESIGN</b>			
<b>Computer Programmers</b>	10,552	\$52,750	\$76,270
<b>Computer Support Specialists</b>	23,289	\$38,680	\$56,580
<b>Information Security and Web Design</b>	11,950	\$61,220	\$88,360



TABLE 9 MASSACHUSETTS EMPLOYMENT PROJECTIONS 2010-2020 ENGINEERING CONSTRUCTION & TRADES OCCUPATIONS			
Description	Projected Employment Level - 2020	Entry Annual Wage May 2012	Median Annual Wage May 2012
<b>DESIGN AND VISUAL COMMUNICATION</b>			
Graphic Designers (including Video Games)	8,892	\$36,120	\$50,410
Commercial and Industrial Designer	1,157	\$43,800	\$65,710
<b>MULTI-MEDIA ENGINEERING</b>			
Set and Exhibit Designers	411	\$33,740	\$58,920
Multi-media Artists	2,055	\$41,850	\$62,460
Audio and Video Technicians	3,137	\$33,710	\$47,140
Film and Video Editors	715	\$34,790	\$58,010
Camera and Video Operators	684	\$27,720	\$37,920
Sound Engineering Technicians	540	\$24,300	\$40,010

TABLE 10 MASSACHUSETTS EMPLOYMENT PROJECTIONS 2010-2020 ENGINEERING CONSTRUCTION & TRADES OCCUPATIONS			
Description	Projected Employment Level - 2020	Entry Annual Wage May 2012	Median Annual Wage May 2012
<b>ROBOTICS ENGINEERING AUTOMATION</b>			
Electro-Mechanical Technicians	1,340	\$41,370	\$55,000
Mechanical Engineering Technicians	1,697	\$37,520	\$51,550
Manufacturing Production Technicians	935	\$39,920	\$57,680
Electrical and Electronic Technicians	7,592	\$42,450	\$56,890
Home Entertainment Installers	1,040	\$25,310	\$47,780
Telecommunications Installers	4,155	\$38,890	\$61,780
Computer and Office Machine Repairers	3,220	\$28,690	\$44,830

## B. Life Sciences and Services Academy

### 1. Occupational Employment Projections Summary 2010-2020

Tables 11 through Table 14 provide employment projections for the Chapter 74 Programs related to Bio Science and Life Science. These programs include Bio-Technology, Horticulture and Landscaping and Environmental Science and Technology.

The labor market outlook for the six occupations related to Bio Science is quite bright. While most of these occupations are small with the exception of Biological Technicians, the growth rates for



all six occupations exceed the state wide average. The occupation with the most absolute growth is Biological Technicians which is expected to expand by nearly 1,100 jobs, with total annual openings of 278. The Chemical Technician occupation is expected to add 470 jobs over the projection period, with 81 annual openings. Biological Scientists which is the smallest of the Bio Tech occupations should add fewer than 200 jobs over the projection period, representing 44 annual openings. It should be noted that Biological Scientists are required to have at a minimum an advanced degree, and more often a graduate degree.

Employment opportunities will be concentrated in the Life Science industries, including Pharmaceutical and Scientific Research firms. Maintaining and expanding local employer relationships is essential. This is especially true since most Life Sciences employers typically look for individuals with a Bachelor's degree. The future prospects for graduates of this program are very positive in the Route 128 corridor.

Although small, the three occupations related to Bio Manufacturing are projected to grow much faster than the statewide average. The labor market picture for graduates from Medical Equipment Repairers is also bright with a projected growth rate of nearly 40%, an increase of 328 jobs over the projections period. Individuals employed in this occupation inspect, test and repair medical equipment should find openings due to both growth (33) and replacement (24). Medical Appliance Technicians who fit and repair braces, supports and prosthesis is one of the fastest growing occupations, increasing employment by almost 50% and adding 356 jobs. Medical Equipment Preparers (different than Repairers), clean instruments and detect equipment leaks and loose parts is expected to grow by nearly 20% and add just over 214 jobs.

Among the occupations related to Horticulture and Landscaping, the largest occupation by far is Landscapers and Groundskeeper. In fact it is one of the largest occupations in the entire Massachusetts economy. During the projections period, nearly 6,000 jobs are expected to be added, representing a growth rate of almost 25%. A total of just over 1,000 openings are expected annually, with the majority due to growth. Pest Control Workers was projected to add 264 jobs, representing a growth rate of just fewer than 30%. This translates to 66 annual openings.

The outlook for the two remaining occupations related to Horticulture and Landscaping is much less favorable. Employment among Florist is expected to decline while for Nursery and Greenhouse Workers it is unchanged. There will however, be a small number of replacement openings for both Florists (45) and Nursery Workers (74).

Among the four occupations related to Environmental Science, Environmental Engineering Technicians and Environmental Science and Protection Technicians often require an Associate's Degree. By comparison, Hazardous Waste Removal Workers and Water and Waste Treatment Operators can obtain entry level positions with vocational training or post-secondary education below the Associate's Degree.

The growth rate for three of the Environmental Technology-related occupations exceeds the overall average for Massachusetts. Projected growth for Environmental Engineering Technicians (27.9%) and Environmental Science and Protection Technicians (19.5%) is especially positive. A total of





180 and 204 jobs, respectively, will be added during the projections period. This translates into 30 and 60 annual job openings for these two occupations. Hazardous Waste Removal workers are expected to increase employment by 301 jobs, for a growth rate of almost 20%, resulting in 70 annual openings.

The one occupation with a negative outlook is Water and Waste Treatment Operators. Employment is projected to decline slightly (-11 jobs) but 63 annual openings are anticipated to meet replacement needs.

<b>TABLE 11                      MASSACHUSETTS EMPLOYMENT PROJECTIONS                      2010-2020                      LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Replacement Openings	Annual Total Openings
<b>BIO-TECHNOLOGY</b>				
Biological Scientists	194	19	25	44
Biological Technicians	1,062	106	172	278
Chemical Technicians	470	47	34	81
<b>BIO-MANUFACTURING</b>				
Medical Appliance Technicians	356	36	22	58
Medical Equipment Preparers	214	21	17	38
Medical Equipment Repairers	328	33	24	57

<b>TABLE 12                      MASSACHUSETTS EMPLOYMENT PROJECTIONS                      2010-2020                      LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Replacement Openings	Annual Total Openings
<b>HORTICULTURE AND LANDSCAPING</b>				
Landscapers and Groundskeepers	5,931	593	445	1,038
Pest Control Workers	264	26	40	66
Nursery/Greenhouse Workers	0	0	74	74
Florists	-231	0	45	45



<b>TABLE 13            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010-2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Replacement Openings	Annual Total Openings
<b>ENVIRONMENTAL TECHNOLOGY</b>				
Environmental Engineering Technicians	180	18	12	30
Environmental Science & Protection Techs	204	20	40	60
Hazardous Waste Removal Workers	301	30	40	70
Water & Waste Treatment Plant Operators	-11	0	63	63
<b>TABLE 14            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2020-2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Percent Employment Change 2010-2020	Percent Openings Due To Growth	Percent Openings Due Replacement	
<b>BIO-TECHNOLOGY</b>				
Biological Scientists	17.4	43.2	56.8	
Biological Technicians	20.8	38.1	61.9	
Chemical Technicians	19.6	58.0	42.0	
<b>BIO-MANUFACTURING</b>				
Medical Appliance Technicians	49.7	62.0	38.0	
Medical Equipment Preparers	18.9	55.3	46.7	
Medical Equipment Repairers	37.2	57.9	42.1	
<b>HORTICULTURE AND LANDSCAPING</b>				
Landscapers and Groundskeepers	23.5	57.7	42.3	
Pest Control workers	29.5	39.4	60.6	
Nursery/Greenhouse Workers	No change	0	100.0	
Florists	-15.8	0	100.0	
<b>ENVIRONMENTAL TECHNOLOGY</b>				
Environmental Engineering Technicians	27.9	60.0	40.0	
Environmental Science and Protection Technicians	21.5	33.3	66.7	
Hazardous Waste Removal Workers	19.9	42.8	57.2	
Waster and Water Treatment Plant Operators	-0.5	0	100.0	
<b>TOTAL, ALL OCCUPATIONS</b>	13.7	37.9	62.1	



Health Assisting, Cosmetology, and Early Childhood Education are the three programs with the most absolute openings in related occupations. Among specific occupations with large numbers of openings (exceeding 1000 annually) were Child Care Workers, Nurse's Aides, Personal/Home Care Aides and Home Health Aides. As Table 15 indicates, the growth rates for these 4 occupations, as well as many others in these three programs exceed the statewide growth rate by a wide margin. In addition, Hairdresser is also an occupation with a large number of openings, approaching 800 annually.

With regard to Culinary Arts, with the exception of Institutional Cooks, all the other occupations are projected to have growth rates well below the statewide average (see Table 16) with Chefs: Fast Food Cooks actually declining. Replacement will account for most of the openings and be especially prevalent among Restaurant Cooks and Food Preparation workers.

A major advantage of the occupations in Health Assisting, Cosmetology and Early Childhood Education, as well as Culinary Arts, irrespective of employment projections is that jobs in these fields are spread throughout the Commonwealth and are not geographically concentrated like many in the technical and science fields. This condition provides job seekers with a great deal of flexibility in finding the right type of position and location that best meets their needs.

The overall outlook for Hospitality and Tourism is, for the most part, quite modest in terms of both employment change and the projected number of openings. Growth rates for Flight Attendants, Hotel Lodging Managers, and Hotel resort Clerks are well below average although the number of annual openings for Hotel Clerks (236) reflects their replacement needs. Tour Guides and Travel Agents are anticipating growth rates comparable to the statewide rate, but as they are small occupations each has fewer than 70 annual openings. The major exception among the Hospitality and Tourism program is Meeting and Convention Planners. Employment in this occupation is expected to grow by over 50%, representing an increase of 1,076 jobs during the projections period. In addition, nearly 75% of the 146 annual openings are due to growth which is a sign of a rapidly growing and dynamic occupation.



**TABLE 15  
MASSACHUSETTS EMPLOYMENT PROJECTIONS  
2006-2016  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

Description	Employment Change 2010-2020	Annual New Openings	Annual Replacement	Annual Total Openings
<b>HEALTH ASSISTING OCCUPATIONS</b>				
Medical Assisting	2,421	242	203	445
Home Health Aides	9,360	936	225	1,161
Nurse's Aide	8,057	810	539	1,349
Personal and Home Care Aides	9,921	992	173	1,165

**TABLE 16  
MASSACHUSETTS EMPLOYMENT PROJECTIONS  
2010-2020  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

Description	Employment Change 2010-2020	Annual New Openings	Annual Replacement	Annual Total Openings
<b>CULINARY ARTS &amp; HOSPITALITY</b>				
Chefs and Head Cooks	-136	0	61	61
Cooks, Fast Food	-422	0	138	138
Cooks, Institutions & Cafeterias	1,529	153	183	336
Cooks, Restaurants	2,115	212	514	726
Cooks, Short Order	96	10	79	89
Bakers	339	34	131	165
Food Preparation Workers	1,407	141	687	828
Meeting Planners	1,076	108	38	146
Tour Guides	179	18	35	53
Travel Agents	349	35	39	65
Flight Attendants	28	3	36	39
Hotel and Lodging Managers	28	3	26	29
Hotel & Resort Clerks	183	18	118	236



<b>TABLE 17                      MASSACHUSETTS EMPLOYMENT PROJECTIONS                      2010-2020                      LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Annual Replacement	Annual Total Openings
<b>COSMETOLOGY/BARBERING</b>				
Manicurists & Pedicurists	602	60	47	107
Hairdressers & Cosmetologists	4,374	437	361	798
Skin Care Specialists	572	57	38	95

<b>TABLE 18                      MASSACHUSETTS EMPLOYMENT PROJECTIONS                      2010-2020                      LIFE SCIENCES AND SERVICES OCCUPATIONS</b>				
Description	Employment Change 2010-2020	Annual New Openings	Annual Replacement	Annual Total Openings
<b>EARLY CHILDHOOD EDUCATION</b>				
Pre-School Teachers	2,394	239	356	595
Kindergarten Teachers	695	70	97	167
Child Care Workers	5,037	504	985	1,489
Teacher Aide	4,599	460	768	1,128

**2. Employment and Wage Summary May 2012**

Tables 18-20 provide employment and wage information for the occupations related to the Bio Technology, Horticulture and Landscaping and Environmental Science programs.

All of the occupations within Bio Technology are well paying. As would be expected because of the educational requirements, Biological Scientists has both the highest entry lever (\$61,640) and median wage (\$96,090). The largest occupation among the group, Biological Technicians, has an entry level wage of \$30,980 as compared to \$35,460 for Chemical Technicians. Their respective median wages are \$43,260 and \$48,080.

Within Bio Manufacturing, wages for these occupations fall in a narrow range of between \$29,690 and \$32,200 for entry level positions. The gap does widen for median wages with Medical Equipment Repairers leading the way (\$44,300), followed by Medical Appliance Technicians (\$40,640) and Medical Equipment Preparers (\$37,900).



As noted earlier, Landscapers and Groundskeepers is one of the largest occupations related to any of the program academies with an estimated employment level of 31,127 in 2020. The wages are modest, with an entry level wage of \$23,520 as compared to a median wage of \$31,440. Pest Control Workers are the highest paying of this group with an entry level wage of \$31,830 and a median wage of nearly \$39,790. On the lower end of the scale are Nursery and Greenhouse Workers and Florists, with entry level wages of \$17,910 and \$20,200 respectively. These wages reflect in part the seasonal nature of work, especially for Landscapers and Nursery Workers. Landscapers often find winter work removing snow from both residential and commercial properties.

Among the Environmental Technology occupations, despite its employment outlook, Water and Waste Treatment operators have both the highest entry level (\$38,570) and median (\$50,410) wage. Environmental Engineering Technicians were the second highest, with an entry level wage of \$35,100, followed by Hazardous Waste Removal workers (\$29,190) and Environmental Science and Protection Technicians (\$28,080).

<b>TABLE 18            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010-2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>			
Description	Projected Employment Level	Entry Annual Hourly Wage May2012	Median Annual Wage May 2012
<b>BIO-TECHNOLOGY</b>			
Biological Scientists	1,389	\$61,640	\$96,090
Biological Technicians	6,165	\$30,980	\$43,260
Chemical Technicians	2,063	\$35,460	\$48,080
<b>BIO-MANUFACTURING</b>			
Medical Appliance Technicians	1,077	\$29,690	\$40,640
Medical Equipment Preparers	1,315	\$30,970	\$37,900
Medical Equipment Repairers	1,121	\$32,200	\$44,300

<b>TABLE 19            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010-2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>			
Description	Projected Employment Level	Entry Annual Hourly Wage May2012	Median Annual Wage May 2012
<b>HORTICULTURE AND LANDSCAPING</b>			
Landscapers and Groundskeepers	31,127	\$23,520	\$31,440
Pest Control Workers	1,159	\$31,830	\$39,790
Nursery/Greenhouse Workers	2,427	\$17,910	\$25,010
Florists	1,226	\$20,200	\$26,460



<b>TABLE 20            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010-2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>			
Description	Projected Employment Level	Entry Annual Hourly Wage May2012	Median Annual Wage May 2012
<b>ENVIRONMENTAL TECHNOLOGY</b>			
Environmental Engineering Technicians	826	\$35,100	\$45,670
Environmental Science & Protection Techs	1,153	\$28,080	\$35,970
Hazardous Waste Removal Workers	1,811	\$29,190	\$37,920
Water & Waste Treatment Plant Operators	2,440	\$38,570	\$50,410

<b>TABLE 21            MASSACHUSETTS EMPLOYMENT PROJECTIONS            2010 -2020            LIFE SCIENCES AND SERVICES OCCUPATIONS</b>			
Description	Percent Employment Change 2010-2020	Percent Openings Due To Growth	Percent Openings Due Replacement
<b>HEALTH AND DENTAL ASSISTING</b>			
Medical Assisting	18.3	54.4	45.6
Home Health Aides	53.7	80.6	19.4
Nurse's Aide	19.4	60.0	40.0
Personal and Home Care Aide	45.4	85.2	14.8
Dental Assistant	13.4	35.0	65.0
Dental Hygienist	18.7	48.2	51.8
<b>CULINARY</b>			
Chefs and head Cooks	-4.0	0	100.0
Cooks, Fast Food	-6.5	0	100.0
Cooks, Institutions and Cafeterias	17.8	45.5	54.5
Cooks Restaurants	8.8	29.2	70.8
Cooks, Short Order	2.6	11.2	88.8
Bakers	7.5	20.6	79.4
Food Preparation Workers	7.4	17.0	83.0
<b>HOSPITALITY and TOURISM</b>			
Meeting Planners	53.5	74.0	26.0
Tour Guides	19.5	34.0	66.0
Travel Agents	12.6	53.8	46.2
Flight Attendants	1.5	7.7	92.3
Hotel and Lodging Managers	3.0	10.3	89.7



**TABLE 21  
MASSACHUSETTS EMPLOYMENT PROJECTIONS  
2010 -2020  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

Description	Percent Employment Change 2010-2020	Percent Openings Due To Growth	Percent Openings Due Replacement
<b>Hotel and Resort Clerks</b>	6.2	7.6	92.4
<b>COSMETOLOGY</b>			
<b>Manicurists and Pedicurists</b>	23.3	56.0	44.0
<b>Hairdressers and Cosmetologists</b>	23.1	54.8	45.2
<b>Skin Care Specialist</b>	27.2	60.0	40.0
<b>EARLY CHILDHOOD EDUCATION</b>			
<b>Pre School Teachers</b>	17.5	40.2	59.8
<b>Kindergarten Teachers</b>	18,6	41.9	58.1
<b>Child Care Workers</b>	16.1	33.8	66.2
<b>Teacher Aide</b>	13.5	40.8	59.2

Although the employment outlook for many occupations in this academy is positive, the wages are often modest at best. This is especially true among the Culinary and Cosmetology occupations with one notable exception. The range of entry level wages for Cooks (except Chefs and Head Cooks) is quite narrow (\$17,730-\$22,650) as is the case for median wages (\$19,350-\$30,500). As noted above, Chefs and Head Cooks are the exception with an entry level wage of \$37,820 and a median wage of \$52,010. In most instances, however, Chefs and Head Cooks typically have some post-secondary education.

Modest wages are also paid to Cosmetology workers. The very large Hairdresser and Cosmetology occupation reported an entry annual salary of \$18,940 and a median wage of \$27,690. Skin Care Specialists fared slightly better with an entry level wage of \$25,020 while Manicurists and Pedicurists did not do as well (\$17,780).

A factor contributing to the lower wages among Culinary and Cosmetology occupations is that positions are sometimes part-time, turnover can be high, and self-employment is pervasive in the latter category. This is especially true for Short Order and Fast Food Cooks and Cosmetology workers. For the very large Cosmetology occupation, more than 40% are self-employed which means being responsible for one’s own benefits. As tips are an integral part of compensation for Cosmetology workers, the type of shop they work in also is critical.

One prominent aspect for the Early Childhood occupations is the wage disparity. Kindergarten teachers reported a median annual wage of \$60,770, as compared to \$31,190 for Pre-School Teachers, \$24,600 for Child Care Workers, and \$25,830 for Teacher Aides. Educational attainment is a major contributor to the disparity, as almost all Kindergarten Teachers have at least a Bachelor’s Degree, compared to just under half for Pre-School Teachers. In addition, Kindergarten Teachers are primarily

employed in public school systems, which typically pay better than the private child day care service providers, the more typical employer of Pre-School Teachers.

As noted above, Child Care Workers are at the bottom of the labor market queue, with regard to wages. Private Day Care providers are in a constant struggle to balance affordable day care costs with wages that are sufficient to attract and retain workers. Furthermore, the fact that one third of Child Care Workers are self-employed and responsible for their own benefits contributes to the high turnover associated with this occupation. Certainly lower educational attainment is a contributing factor to lower wages; just 14% have at least a Bachelor’s Degree, while half have a high school diploma. At the same time, a number of different job titles, including Day Care Teacher, Family Child Care Assistant, Day Care Provider, Child Care Group Leader and Child Care Kindergarten Coordinator, all require licenses in Massachusetts.

Within the Health Assisting occupations, distinct groups exist with regard to wages. The three aide occupations (Nurse Aide, Home Health Aide and Personal Home Care Aide) have relatively low entry level wages (\$20,860-\$24,060) and do not register marked increases over time as reflected in their median wage range (\$25,780-\$28,760). The wages tend to be suppressed due to high turnover associated with the wages and often difficult working conditions.

The second group includes Medical Assistants. The entry level wages are higher (\$29,000 and \$31,020) as are the median wages of \$35,600 and \$40,950. A wide range of wages exist among the six occupations related to Hospitality and Tourism. At the top of the pyramid is Meeting and Convention Planners and Hotel and Lodging Managers. Their respective entry level wages were \$37,680 and \$35,850 while the median wages for these two occupations were \$55,540 and \$61,090, respectively. In the middle were Flight Attendants (entry level wage \$25,420) and Travel Agents (\$28,670). The median wages were \$33,150 for Flight Attendants and \$41,270 for Travel Agents. At the low end of this group are Hotel and Resort Clerks and Tour guides with entry level wages just under \$20,000.

**TABLE 22  
MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

<b>Occupation</b>	<b>Projected Employment Level--2020</b>	<b>Entry Level Annual Wage May 2012</b>	<b>Median Annual Wage May 2012</b>
<b>HEALTH ASSISTING OCCUPATIONS</b>			
<b>Medical Assisting</b>	15,664	\$29,000	\$35,600
<b>Nurse’s Aide</b>	49,883	\$24,060	\$28,760
<b>Home Health Aide</b>	26,800	\$21,680	\$26,480
<b>Personal and Home Care Aide</b>	31,776	\$20,860	\$25,780



**TABLE 23  
MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

Occupation	Projected Employment Level--2020	Entry Level Annual Wage May2012	Median Annual Wage May 2012
<b>CULINARY / HOSPITALITY</b>			
<b>Chefs and Head Cooks</b>	3,396	\$37,820	\$52,010
<b>Cooks, Fast Food</b>	6,062	\$17,730	\$19,350
<b>Cooks, Institutions &amp; Cafeterias</b>	10,134	\$22,650	\$30,500
<b>Cooks, Restaurants</b>	26,254	\$21,660	\$27,430
<b>Cooks, Short Order</b>	3,787	\$19,120	\$25,830
<b>Bakers</b>	4,862	\$19,890	\$27,370
<b>Food Preparation Workers</b>	20,489	\$17,920	\$22,200
<b>Meeting Planners</b>	3,086	\$37,680	\$55,540
<b>Tour Guides</b>	1,095	\$19,700	\$29,650
<b>Travel Agents</b>	3,115	\$28,670	\$41,270
<b>Flight Attendants</b>	1,928	\$25,420	\$33,150
<b>Hotel and Lodging Managers</b>	974	\$35,850	\$61,090
<b>Hotel &amp; Resort Clerks</b>	3,137	\$19,430	\$25,290

**TABLE 24  
MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

Occupation	Projected Employment Level--2020	Entry Level Annual Wage May 2012	Median Annual Wage May 2012
<b>COSMETOLOGY/BARBERING</b>			
<b>Manicurists &amp; Pedicurists</b>	3,185	\$17,780	\$19,560
<b>Hairdressers &amp; Cosmetologists</b>	23,315	\$18,940	\$27,690
<b>Skin Care Specialists</b>	2,679	\$25,020	\$34,530





**TABLE 25  
MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES  
LIFE SCIENCES AND SERVICES OCCUPATIONS**

<b>Occupation</b>	<b>Projected Employment Level--2020</b>	<b>Entry level Annual Wage May 2012</b>	<b>Median Annual Wage May 2012</b>
<b>EARLY CHILDHOOD EDUCATION</b>			
<b>Pre-School Teachers</b>	16,073	\$23,640	\$31,190
<b>Kindergarten Teachers</b>	4,459	\$33,480	\$60,770
<b>Child Care Worker</b>	36,322	\$19,280	\$24,600
<b>Teacher Aide</b>	38,639	\$19,180	\$25,830



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APPENDIX

A. Table A: Industries Related to One or More Minuteman Regional Technical Vocational High School Ch. 74 Programs

<b>TABLE A INDUSTRIES RELATED TO ONE OR MORE MINUTEMAN REGIONAL TECHNICAL VOCATIONAL HIGH SCHOOL CHAPTER 74 PROGRAMS</b>	
	<b>Description</b>
<b>Construction</b>	
	Construction of Buildings
	Specialty Trade Contractors
<b>Manufacturing</b>	
	Manufacturing
	Bakeries
	Printing and Related Support Activities
	Pharmaceuticals
	Fabricated Metal Product Manufacturing
	Machinery Manufacturing
	Computer and Electronic Product Mfg
	Communication Equipment
	Semi-Conductors
	Navigational and Controlling Instruments
	Electrical Equipment
	Medical Equipment and Supplies
<b>Wholesale and Retail Trade, Transportation</b>	
	<b>Wholesale Trade</b>
	Wholesale, Plumbing Supplies
	<b>Retail Trade</b>
	Motor Vehicle and Parts Dealers
	Automobile Dealers
	Auto Parts, Accessories, and Tire Stores
	Electronics Appliance Stores
	Lawn and Garden Equipment
	Grocery Stores
	Gasoline Stations
	Department Stores
	Air Transportation
<b>Information</b>	
	Publishing
	Newspaper, Book, & Directory Publishers
	Motion Picture & Sound Recording Industries
	Telecommunications ( Cable and Telephone)
<b>Finance and Insurance</b>	
	Finance and Insurance
	Credit Intermediation & Banking



<b>TABLE A</b>	
<b>INDUSTRIES RELATED TO ONE OR MORE MINUTEMAN REGIONAL TECHNICAL VOCATIONAL HIGH SCHOOL CHAPTER 74 PROGRAMS</b>	
	<b>Description</b>
	Insurance Carriers & Related Activities
	Legal Services
	Engineering and Architecture Services
	Computer Systems Design and Related Services
	Management & Technical Consulting Services
	Scientific Research and Development Services
	Advertising and Related Services
	Business Support Services
	Travel Arrangement Services
	Services to Buildings and Dwellings
	Waste Water Treatment and Waste Removal
<b>Education , Health and Social Services</b>	
	Education
	Elementary and Secondary Education
	Colleges and Universities
	Health Care and Social Assistance
	Offices of Physicians
	Offices of Dentists
	Outpatient Care Centers
	Home Health Care Services
	Hospitals
	Nursing and Residential Care Facilities
	Child Care Services
<b>Leisure and Hospitality</b>	
	Museums
	Amusement & Recreation
	Accommodation
	Hotel Accommodation
	Food Services and Drinking Places
<b>Other Services and Government</b>	
	Automotive Repair and Maintenance
	Electrical Repair
	Business Services Organizations
	Personal Care Services
	Nurseries
	State and Local Government Administration





**B. TABLE B: Minuteman Regional Vocational School Ch. 74 Programs: Related Occupations and Key Industries**

<b>TABLE B MINUTEMAN REGIONAL VOCATIONAL TECHNICAL SCHOOL CHAPTER 74 PROGRAMS: RELATED OCCUPATIONS AND KEY INDUSTRIES</b>				
<b>CIP Code</b>	<b>Minuteman Vocational Programs</b>	<b>Related Occupations</b>	<b>Related SOC Codes</b>	<b>Key Industries (NAICS Code in Parenthesis)</b>
<b>Engineering, Construction, and Trades Academy</b>				
47.0604	Automotive Technology	Automotive Service Technician	49.3023	Auto Dealers (4411) Auto Parts Stores (4413) Gas Stations (447) Auto Repair Shops (8111)
46.0201	Carpentry	Carpenters Carpenter Helpers	47.2031 47.3012	Bldg Contractors (236) Specialty Trade Contractors (238)
46.0302	Electricians/Electrical Wiring	Electricians Electrician Helpers Telecommunications Equipment Installers Security and Alarm Installers	47.2111 47.3013 49.2022 49.2098	Specialty Trade Contractors (238) Electrical Equipment (335) Education (61) Services to Buildings (5617) Telecommunications (517)
47.0201	HVAC	Heating, Air Conditioning, Refrigeration Mechanics and Installers Valve and Control Installers and Repairers	49.9021 49.9012	Specialty Trade Contractors (238) Wholesale Plumbing Supplies (4237) Services to Buildings ((5617) Education (61)
46.0503	Plumbing	Plumbers Pipefitters Helpers, Plumbers and Pipefitter	47.2512 47.2152 47.3019	Plumbing, Heating AC Contractors (283) Non Residential Building (236) Services To Buildings (5617) Wholesalers, Hardware and Plumbing (4237)
48.0599	Metal Fabrication And Welding	Welders, Solderers and Cutters Sheet Metal Worker Structural Metal Workers	51.41 21 47.2211 51.2041	Specialty Trade Contractors (238) Fabricated Metals (332) Machinery (333) Commercial Machinery Repair (8113)

**TABLE B  
MINUTEMAN REGIONAL VOCATIONAL TECHNICAL SCHOOL CHAPTER 74 PROGRAMS: RELATED OCCUPATIONS AND KEY INDUSTRIES**

<b>CIP Code</b>	<b>Minuteman Vocational Programs</b>	<b>Related Occupations</b>	<b>Related SOC Codes</b>	<b>Key Industries (NAICS Code in Parenthesis)</b>
11.0401 11.0201	Program and Web Design Information Science	Computer Programmer Computer Support Specialists Information Security Specialist and Web Designers	15.1131 15.1150 15.1799	Computer Systems Design (5415) Insurance Carriers (524) Computer and Electronics Manufacturing (334) Education (61) Banking (522)
10.0301 10.0304 50.0401	Design and Visual Communication	Graphic Designer Commercial and Industrial Designer Set and Exhibit Designer Multi Media Artists	27.1024 27.1021 27.1027 27.1014	Newspapers, Periodicals and Books (5111) Advertising (5418) Specialized Design Services (5414) Motion Pictures and Video Industries (512) Scientific and Technical Consulting (5417) Printing (323)
09.0701 10.0201 10.0203	Radio and Television Broadcasting Multi-Media Engineering/Technology	Audio and Video Technicians Film and Video Editor Camera and Video Operators Multi Media Artists Sound Engineering Technicians Set Designers	27.4011 27.4032 27.4031 27.1014 27.4014 27.1027	Motion Picture and Video Industry (5121) Performing Arts (711) TV Broadcasting (5151) Advertising (5418) Radio Broadcasting (5151) Sound Recording Services (5122)
48.0599 15.0000 15.0403	Robotics Engineering Automation	Electrical and Electronic Technicians Electro-Mechanical Technicians Home Entertainment Installers Telecommunications Installers Computer and Office Machine Repairers Electro-Mechanical Technicians Robotics Technicians Mechanical Engineering Technicians Manufacturing Production Technicians	17.3023 17.3024 49.2097 49.2032 49.2011 17.3020401 17.3027 17.3029	Machinery Mfg (333) Computer and Electronics Mfg (334) Electronics and Appliance Stores (443) Cable and Telephone Providers (517) Electronics Repair (8112) Navigational, Measuring and Control Instruments (3345) Engineering and Architectural Services (5413) Research and Development , Engineering and Physical Sciences (5417) Communication Equipment (3342) Semi-Conductor and Electronic Components (3344)

**Life Science and Services Academy**

**TABLE B  
MINUTEMAN REGIONAL VOCATIONAL TECHNICAL SCHOOL CHAPTER 74 PROGRAMS: RELATED OCCUPATIONS AND KEY INDUSTRIES**

<b>CIP Code</b>	<b>Minuteman Vocational Programs</b>	<b>Related Occupations</b>	<b>Related SOC Codes</b>	<b>Key Industries (NAICS Code in Parenthesis)</b>
51.0000	Health Assisting	Medical Assistant Nursing Aides and Orderlies Home Health and Elder Care Aides Personal and Home Care Aides	31.9092 31.1012 31.1011 39:9021	Hospitals (622) Nursing and Residential Care Facilities (623) Physicians' Offices (6111) Outpatient Facilities (6114) Home Health Services ( 6116)
12.0401	Cosmetology	Cosmetologists and Hairdressers Manicurists and Pedicurists Skin Care Specialists	39.5012 39.5092 39.5094	Personal Care Services (8121) Department Stores (4521)
12.0500 52.0901	Culinary Arts Hospitality and Tourism	Chef and Head Cooks (includes Pastry Chefs) Cooks, Fast Food Cooks, Institutions and Cafeterias Cooks, Restaurants Cooks, Short Order Bakers Food Preparation Workers Hotel and Lodging Managers Hotel and Resort Clerks Meeting and Convention Planners Travel Agents Tour Guides Flight Attendant	35.1011  35.2011 35.2012 35,2014 35,2015 51.3011 35.2021 11.9081 43.4081 13.1121 41.3041 39.7012 53.2031	Food Services (722) Grocery Stores (4451) Education (61) Nursing and Residential Care (623) Hospitals (622) Hotels (7211) Amusement and Recreation Parks (713) Bakery Manufacturing (3118) Accommodation (721) Museums (7121) Travel Arrangement Services (5615) Business Service Organizations (813) Air Transportation (481)
13.1210	Early Education and Care	Child Care Worker Teacher Aide Pre School Teacher Kindergarten Teacher	39.9011 25.9041 25.2011 25.2012	Child Care Services (6244) Individual and Family Services (6241) Elementary and Secondary Education (6111)
26.0101 15.0401	Bio Science	Biological Technicians Biological Scientists Chemical Technicians Medical Appliance Technician Medical Equipment Preparers Medical Equipment Repairers	19.4021 19.1029 19.4031 51.9082 31.9093 49.9062	Colleges and Universities (6113) Research and Development (5417) Pharmaceutical Mfg (3254) Hospitals (622) Medical Equipment Supplies (3391)

**TABLE B  
MINUTEMAN REGIONAL VOCATIONAL TECHNICAL SCHOOL CHAPTER 74 PROGRAMS: RELATED OCCUPATIONS AND KEY INDUSTRIES**

<b>CIP Code</b>	<b>Minuteman Vocational Programs</b>	<b>Related Occupations</b>	<b>Related SOC Codes</b>	<b>Key Industries (NAICS Code in Parenthesis)</b>
01.0601 01.0605	Horticulture and Landscaping Technology	Nursery Workers Landscapers and Groundskeepers Pest Control Workers Florists	45.2092 37.3011 37.2011 27.1023	Services to Buildings (5617) Lawn and Garden Equipment (4442) Nurseries (1114)
15.0507	Environmental Science Technology	Environmental Engineering Technician Environmental Science and Protection Technicians Hazardous Waste Removal Operators Water and Waste Water Treatment Operators	17.3025 19.4091 47.4041 51.8031	Management, Scientific and Technical Consulting (5416) Engineering and Architecture Services (5413) Colleges and Universities (6113) Waste Treatment and Disposal (5622) Remediation and Waste Management (5629) Hospitals (622)



**Engineering, Construction & Trades Academy**

**Shared Services & Programs**

**Life Sciences & Services Academy**

Advanced Manufacturing & Metal Fabrication  
48.0501 / 48.0599

Automotive  
47.0604

Carpentry  
46.0201

Design & Visual Communications  
50.0401

Electrical  
46.0302

Multi-Media Engineering  
09.0701

Plumbing & HVAC  
46.0603 / 47.0201

Programming & Web Development  
11.0201

Robotics Engineering Automation  
15.0000 / 15.0403

Nursing & Wellness Services  
Library & Media Center  
Special Education

Common Planning Time

Academic Programs

Chemistry Science  
Physics  
English Language Arts  
Mathematics  
Physical Education

Humanities  
Art & Music  
Guidance Counseling  
Career Development  
Advanced Placement

Common CVTE Competencies

Health & Safety  
Entrepreneurship  
Financial Literacy

Digital Literacy  
Career Guidance  
Work based Learning  
Internships & Coop

Reading Consultancy  
Student Portfolios  
Executive Purpose  
Project Based Learning

Culinary Arts & Hospitality  
12.0500 / 52.0901

Cosmetology  
12.0404

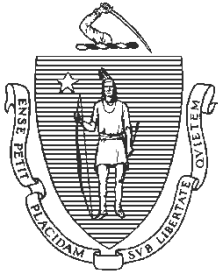
Early Education & Care  
13.1210

Health Occupations  
51.0000

Environmental Science  
15.0507

Biotechnology  
15.0401

Horticulture & Landscaping Tech  
1.0601



# **Massachusetts Department of Elementary and Secondary Education**

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75 Pleasant Street, Malden, Massachusetts 02148-4906

Telephone: (781) 338-3000  
TTY: N.E.T. Relay 1-800-439-2370

Mitchell D. Chester, Ed.D.  
Commissioner

May 11, 2015

Superintendent Edward Bouquillon  
Minuteman Regional Vocational Technical School District  
758 Marrett Road  
Lexington, MA 02421

Dear Superintendent Bouquillon:

You and your staff have consulted with the Department of Elementary and Secondary Education and kept us informed during the planning process for Minuteman's proposed building project. As we have discussed, final approval of the building size and program is the responsibility of the School Building Authority, while approval of new Chapter 74 programs is the responsibility of the DESE Office of Career and Vocational Technical Education. While both of those application processes are still underway, the Department is in general agreement with your proposed plans as submitted to the Department.

Minuteman is an important educational resource for the students in your member communities. We appreciate the efforts of you and your school committee to craft a fiscally responsible plan that downsizes the school to avoid over-reliance on non-member enrollment, while still maintaining a high quality vocational and academic curriculum. When you are successful in gaining the necessary approvals from your members, we look forward to working with you and the Authority to bring this project to fruition.

Sincerely,

A handwritten signature in black ink that reads "Jeff Wulfson".

Jeff Wulfson  
Deputy Commissioner

***Comparison of In District Applications --SY2016 and SY2017  
Incoming Grade 9 students (Year of Graduation 2020)***

<b>In District Applications (Gr 9)</b>	
<b>SY 2015-2016</b>	123
<b>SY 2016-2017 (April 19 2016)</b>	141