INTRODUCTION

As part of the Feasibility Study under the Massachusetts School Building Authority (MSBA) process, the Attleboro Public Schools (APS) has developed this Educational Program for Attleboro High School based on the guidelines outlined in the MSBA Module 3, Section 3.1.2 – Educational Program. The purpose of this document is to evaluate the existing educational program offered by APS and to define the educational activities that will be offered in the future. Developed in collaboration with Attleboro School Building Committee, the APS Administration, and the Attleboro School Committee, the information provided within is based on current data, faculty and staff input from 2016, and the recommendations submitted in June 2014 by the Flagship Task Force, which was convened by the School Committee. The purpose of the Flagship Task Force was to create a process by which to evaluate and determine the long-range plans for organizing and delivering high school programs in Attleboro.

A working draft of this plan was adopted by the Attleboro School Committee on September 12 of 2016 and was used by the Visioning Team process as conducted by Dr. Frank Locker as Educational Consultant. This final version was then approved by the School Committee on November 14, 2016.

GOAL

In line with the APS mission, our goal in modernizing and reorganizing the high school is to provide the learning experiences that will position our students for future success. AHS seeks to prepare its students for their pursuits after high school graduation, including college, other forms of continuing education, career, and the military. The educational program that will best deliver on this intention will be rigorous, personalized for student needs, tailored to the individual goals of learners, and grounded in real-world experiences.

Our Mission:

The Attleboro Public Schools will develop and deliver relevant learning experiences that engage, challenge, and inspire all students to maximize their unique potential and improve our world.
Our Vision:

The vision of the Attleboro Public Schools is to be the center of a community united around education, where all stakeholders value and participate in our collective success.

AHS takes great pride in its role as the flagship of the district and strives to be a major catalyst of progress toward the district’s vision to be the center of the Attleboro community. Allowing for greater participation by community members within the curriculum, providing appropriate spaces for program-based interactions between students and the public, and facilitating student access to the community outside of the school’s walls all complete the picture of enhanced community engagement.

GENERAL OVERVIEW OF ATTLEBORO HIGH SCHOOL

AHS is a Comprehensive High School, offering both traditional general education and Chapter 74 approved Career and Technical Education programs. It was constructed in two phases, the original school built in 1960 with a significant addition in 1972. The school is approximately 428,000 square feet. It sits on nearly 40 acres that includes the building, parking lots and playing fields, and serves roughly 1,700 students in grades 9-12.

Central Office is currently housed at AHS, occupying 14 offices and approximately 12,000 square feet. It includes office space for Superintendent, Assistant Superintendent, Student Services Director, Business Manager, Special Education Offices, Transportation Offices and Facilities Offices. Furthermore, Central Office lacks available space for the ABACUS Office (the district’s before and after care program), which is consequently housed at another site, and offices for three director-level positions that are part of the administration under School Committee policy, but are currently vacant.

The site has four entrances – three at the front of the school (street to Gym/Pool entrance; street to Central Office entrance; and street to Principal’s Office also known as Blue Pride Way), and the other in the Career and Technical Education wing (in the back of the school). There are also various walking paths that connect to Studley Elementary and Brennan Middle Schools.

Attleboro High School has five core subject areas including Mathematics, English Language Arts, Science, Social Studies and Foreign Language. Non-core departments include Visual Arts, Music/Performing Arts, Health and Physical Education, as well as Career and Technical Education (consisting of 12 Chapter 74 programs). Space also needs to be provisioned for our sub-separate Special Education programs including ECP, ALP, MDAP, and 12+.
GRADE AND SCHOOL CONFIGURATION POLICIES

Attleboro Public Schools provides educational programs for students in grades Pre-K through 12 Plus. As of November 7, 2016, there were 6,004 students enrolled across the Attleboro Public Schools. There are five elementary schools that serve kindergarten through grade 4 (one includes the Early Learning Center, the district’s Pre-K program), and the three middle schools that serve grades 5-8. Attleboro High School, the only high school building, serves students in grades 9 through 12 Plus. With the exception of the high school, students at the other levels are assigned to schools based on their geographic neighborhoods with minimal movement between schools based on open enrollment granted to students on a programmatic or space-available basis. The current enrollment at Attleboro High School is 1,674 students. The MSBA has authorized the City of Attleboro to complete a feasibility study for renovation/expansion or new construction of Attleboro High School that would accommodate an enrollment of 1,725 students.

In 2014, the Attleboro Public Schools established an alternative high school on the campus of Attleboro High School. The Attleboro Community Academy blends rigorous academics and wrap-around services in a flexible learning environment within a structured school community. The ACA began with an evening diploma program for Grades 11 and 12 only. However, the ACA is incrementally building towards a full-service alternative high school with a separate culture and philosophy from AHS. In 2015, the ACA added day programming for Grade 10, and in 2016, Grade 9 was added. These regular school-day programs utilize classrooms at AHS, and compete for the available space. The anticipated enrollment in September 2016 for Grades 9-12 is approximately 75 students; however, as we continue the expansion of the ACA, which includes plans to tuition in students from other districts, our staffing and space needs will increase. Ideally, the ACA should be housed in area of the AHS campus that is dedicated to its students, programs, and distinct identity.

CLASS SIZE POLICIES

The Attleboro School Committee recognizes that class size is an important factor in quality education and the highest priority within the budget process. The School Council, the administrative staff, and the community have made it abundantly clear throughout the years that they support reasonable class sizes where students can get sufficient attention from their teachers. In the development of the 2016–2017 budget, the Attleboro Public Schools was faced with an unprecedented deficit. Attleboro High School lost 11 teachers. In the applicable courses of study in the teacher contract, nearly 45% of sections are currently exceed the contractual limit of 28 (35 for Physical Education classes). Furthermore, teachers have a limit on their total load, which is 95 students in any given day. Failure to adhere to either of these limits results in extra compensation. These overages come at a financial penalty to the District as teachers are compensated for classes that exceed the contractual limit. In the previous school year, that cost was approximately $30,000. Projections for 16-17 promise to be at least double that amount. The Central Office administration and School Committee are committed to class sizes that are better suited for teaching and learning in the 21st Century. Given that staffing is driven by budget, the Attleboro Public Schools is seeking ways to mitigate these funding problems which will directly impact class sizes.
SCHOOL SCHEDULING

Curriculum Delivery of General Education

AHS uses a Departmental approach to curriculum delivery aligned to both the Massachusetts Curriculum Frameworks and the Mass Core requirements in the Core Subjects of Math, Science, English, Social Studies, and World Languages; the vocational offerings through Career and Technical Education (CTE); Performing and Visual Arts; and Health and Physical Education. The school schedule is revisited annually and adjustments are made based upon enrollment, student and programming needs, staffing levels, and contractual agreements around educator preparation and professional development. The school day is from 7:15 a.m. to 1:50 p.m. The schedule consists of five blocks, three (3) 65-minute blocks, one (1) 80-minute block which incorporates 20 minutes of Sustained Silent Reading, and one (1) 95-minute period that incorporates four (4) 20-minute lunch periods. The schedule is the same every day, with the exception of intermittent Advisory Days where instead of Silent Sustained Reading, students attend their Advisory. There are 135 Advisory groups with 15 or less students in each. The program was designed to provide students access to an adult support in a small group setting. Offering a variety of student support at Attleboro High School is a priority and this block of time is designed to benefit both students and teachers. During Advisory, students have access to special presentations that assist or enrich students in the area of academics, social skills, test preparation, course selection, student and community leadership, and grade-specific information. During scheduling, priority is given to students in Special Education or ELL programs. All classes are heterogeneously grouped.

Future scheduling would address current disadvantages as well as adhere to current goals and guidelines for student scheduling. It will be based upon research-based best practice strategies that promote teaching and learning for all students. One of the identified goals is to provide students with an X-block where they would have access to a full complement of opportunities by synchronizing the schedule as required to make these spaces available at the appropriate times. The schedule must also include the appropriate staff planning time within the established school day. In addition, Career and Technical Education (CTE) students should be given greater opportunity for the exploration of work-related placements.

TEACHING METHODOLOGY AND STRUCTURE

The mission of the Attleboro Public Schools is to develop and deliver relevant learning experiences that engage, challenge, and inspire all students to maximize their unique potential and improve our world. The current educational structure is department-based and includes the following core academic programs: English, History/Social Studies, Mathematics, Science, World Languages, Physical Education and Health, Performing and Visual Arts, and CTE.

At present AHS operates with a House structure whereby students are arranged vertically at random (while keeping siblings together) in 3 similar House offices. Each House is staffed by a Dean of Students, 2 Guidance Counselors, and a Secretary. Two School Adjustment Counselors are assigned each to a House Office and share the third. Each House Office services approximately 600 students. AHS also has a fourth Dean who serves the dual role of Disciplinarian and Adjustment Counselor for our Attleboro Community Academy (ACA) as well as other members of the AHS at-risk student population.

Physically, the House Offices are located throughout the building. House 1 is on the second floor of A Building, House 2 is on the second floor as well, centrally located across from the Library Media Center and near Cafeteria B2. House 3 is on the third floor just off the B3 Cafeteria.
ATTLEBORO HIGH SCHOOL GRADUATION REQUIREMENTS

Students must successfully complete (pass/receive credit for) the following:

- 4 years of English (English I [college prep or Honors]; English II [college prep or Honors]; English III [college prep or Honors] and an elective, or AP Language; and English IV [college prep or Honors] and an elective, or AP Literature)
- 4 years of Math, including Algebra I, Geometry, and Algebra II
- 4 years of Science, including Physics, Biology, and Chemistry
- 4 years of History, including United States History for all juniors
- 2 years of World Language
- 10 credits of PE/Health (2.5 credits each year)
- 5 credits of Visual or Performing Arts

CURRICULUM DELIVERY

Currently, much of the curriculum is delivered independently in accordance with departmental frameworks. However, the Central Office Administration, AHS Administration and building leadership teams (including department coordinators and Instructional Leadership Team members) believe that interdisciplinary learning rooted in the district's Strategic Plan's Guiding Essential Beliefs, ##### (colored chart), and Exit outcomes will drive curriculum delivery in the immediate future.

GUIDING ESSENTIAL BELIEFS

Our Essential Beliefs contain the underlying values for Educational Delivery and Structure:

- Learning is a shared responsibility among students, schools, families, and the community.
- A safe, respectful, and supportive environment is necessary for both teaching and learning.
- All students deserve challenging and engaging learning experiences that have real-life value.
- All learners need varied and personalized learning experiences that will provide opportunities to develop and apply knowledge and skills.
- Success for all students requires stretching beyond perceived limits through effort and perseverance.
- Progress and success are reliant upon continuous learning, reflection, and growth.
- Learning empowers all of us to discover, think critically, and pursue our aspirations.
- Education prepares students for their responsible participation in a shared world.
EDUCATIONAL DELIVERY AND STRUCTURE

Educational Delivery addresses the overarching themes required to provide a world-class educational experience for Attleboro’s high school students supported by the following objectives:
21st Century Visioning Efforts
AHS continues to apply guidelines provided by the District’s Strategic Plan, Envisioning 2020.

APS Student Exit Outcomes
All APS graduates will:

- engage in each experience as a learning opportunity
- employ effective strategies and techniques to reach thoughtful conclusions
- improve the world through works and deeds in a digital society.

In order to do this, all APS graduates will demonstrate mastery of the following competencies in academic, practical, and digital settings:

Curiosity and Imagination
Students will be inquisitive about the world and ask meaningful and purposeful questions to help understand it.

- Engagement, Purpose, and Questioning

Access and Evaluate Information
Students will be able to find, manage, and evaluate the validity of the wealth of information available to them.

- Research, Sourcing, Evaluation, Interpretation, Contextualization, and Corroboration

Critical Thinking
Students will be able to apply thinking strategies to answer questions, construct meaning and arrive at sound judgements.

- Analysis, Synthesis, Inference, Logic, Creativity, and Metacognition

Communication
Students will be able to effectively express knowledge, ideas and arguments in a variety of ways and contexts.

- Reading, Writing, Speaking, and Listening

Collaboration
Students will be able to work interdependently across a variety of networks.

- Teamwork, Leadership, Influence, and Respect

Initiative, Innovation, and Problem Solving
Students will be able to solve problems by developing and exchanging ideas with the world in a variety of contexts and at a variety of scales.

- Design Thinking, Experimentation, Ideation, Iteration, and Observation

Character and Wellness
Students will be able to make decisions that are moral, just and promote a healthy lifestyle.

- Social, Emotional, Physical, and Ethical
**ACADEMIC SUPPORT PROGRAMMING SPACES**

**ELL**
AHS hosts two ELL classrooms where our high school students who need to access ELL services can do so. Placement in these classrooms is determined at meetings with individual families and appropriate staff members. Our poor technology and wiring infrastructures prevent AHS from fully implementing assistive technology to build skills and enhance learning.

**The Study**
This program attempts to meet the needs of student with and without IEPs. The rooms need to be large enough to house testing for up to 20 students and provide students the space they need to work distraction free. Tech devices are standard practice in the Study so the room must have wireless as well as areas at which a student can charge a device and still work. The Study staff work individually as well with small groups and in workshops so the room layout must be flexible so staff can convert the layout to meet their needs for the day. There must be adequate technology for all groups of students.

**Student Support Classroom**
This program is a highly structured therapeutic environment that provides additional supports to students within the high school setting who have been identified with social, emotional and behavioral needs. The Student Support Classroom places an emphasis on the development and implementation of well-coordinated and consistent therapeutic and academic interventions for students on IEPs. The current classroom is a former departmental workspace that is inadequate to house this growing program.

**Intervention Center**
This program is a highly-structured environment that provides additional supports to students within the high school setting who have been identified to need a space to de-escalate from conflict while being required to focus on continuing academic progress. The current classroom is a former departmental workspace that is inadequate to house this program.

**Student Guidance and Support Services**
The Guidance Department is comprised of 11 individuals servicing nearly 1700 students. Guidance currently has 10 offices and one classroom spread throughout the building. AHS operates within a House model where there are 2 Guidance Counselors/House, a Dean and a Secretary in each of the 3 Houses. The house model works well to personalize the student’s experience. Guidance would like to continue with that model, but would like to see house offices closer to one another in a central location. This would give the department the identity and welcoming environment that is needed for students and families. Currently, Guidance does not have a designated resource room, a multipurpose room, or sufficient storage space. Guidance seeks a space that allows students and staff members to easily access the department that gives staff access to student records and space to hold groups and meetings. The department plans to create a Guidance resource library and display other Guidance-related materials.
Therapeutic and Counseling Services

The Attleboro High School Special Education Department delivers counseling and testing services as well as programming for students in grades 9-12+ within the central Attleboro High School building and the Network Alternative program, a satellite public day program at 135 County Street. The department seeks to address the needs for students with disabilities of all types.

The department within the main campus is made up of 13.5 teachers, 11 paraprofessionals, 2 School Adjustment Counselors, 1.5 School Psychologists, 1 Team Chair/Testing Coordinator, 1 Student Services Coordinator, 1 Speech Pathologist, two .5 Transition Specialists, 1 Educational Diagnostician. Some students also receive Occupational Therapy (OT), Physical Therapy (PT), and behavioral services with a BCBA (Board Certified Behavior Analyst) within our walls.

Health Services

The High School Health Office’s goal is to provide a confidential /pleasant /functional area that is HIPPA compliant. The overall environment of the school health office should be designed to promote the well-being of students while providing a wide range of services. Have an improved ability to manage the flow and volume of students accessing the health office on a day to day basis. Improve the ability to triage most urgent cases in a swift and confidential way that will allow for the required privacy. Return students to learning in an efficient manner. And the response to emergency situations in a confidential and efficient manner.

Teaching Methodology and Structure

English Department

The English Department’s program of studies is composed of single (60 day) and double trimester (120 day) courses as well as full year (180 day) courses. The English Department is dispersed across multiple buildings. The majority of English teachers, (nine or 50%) have classrooms on the third floor of B building. The rest of the department is spread out among the second floor of B building (three or 17%), second floor of A building (one or 6%), first floor of A building (two or 11%) , and first floor of C building (two or 11%). One classroom teacher, who is the AEA president, and the department head teach a partial schedule. The department chair does not have his own room. He does, however, have an office on the third floor of B building and uses a classroom in that area.

The English Department’s main emphasis for a new space is flexibility. Namely, flexibility in the plant’s learning spaces. From the size of a classroom to the movability of furniture to the accessibility of resources, the English Department feels that a versatile learning space is of the utmost importance. In addition, instructional technology is critical in the 21st century; hence, a need to embrace it and make it a part of a student’s learning experience is pivotal. Another aspect of 21st century learning is collaboration. Therefore, we would like to see learning spaces designed in a way that facilitates peers working with each other. Yes, these spaces can be a part of a traditional learning space, but learning “lounges” that encourage both collaboration and independent problem-solving and research should also be considered. These lounges would be devoid of traditional classroom furniture and be welcoming learning labs that mimic how
students will continue to learn and engage with the world post high school graduation. Testing is also likely to be a part of our school’s future. Currently, when the school administers standardized exams the school is figuratively flipped on its head. A newly-designed building must account for high-stakes assessments such as MCAS, AP, and SAT. Once again, flexibility is most valuable. We should consider “testing centers” that can be integrated into the school that can be used not only for standardized tests but for the many activities students take part in throughout the year.

Mathematics

The Attleboro High School Mathematics Department course offerings range from Algebra I through Advanced Placement Calculus. AHS offers all of the traditional high school math courses along with a variety of electives. The electives offered often vary with the expertise and interests of the staff, and the staff is often supported by administration when new offerings are considered. Each of the teachers has his/her own classroom. The department coordinator travels to different classrooms to teach. The Math Department office is located on the second floor of A building in somewhat close proximity to the majority of math classrooms. While most math teachers are housed on the first or second floor of A building, there are some math classrooms on the third floor of B building. The computer science teacher must travel to a computer lab/room to teach the two computer classes. The size of the classrooms vary greatly from approximately 570 square feet to 900 square feet. Many of the rooms are over-crowded with furniture which also includes a teacher’s desk and computer station, a technology set-up, file cabinets, bookcases, etc. Moving forward, the mathematics department recognizes the need for relevancy and project-based learning within its curriculum. Ideally, there should be a STEM (or STEAM) focus within the building. The math and science teachers should have the ability to collaborate and/or team teach. The CTE programs such as Engineering and Robotics should be located in the same area.

Science

The Attleboro High School science curriculum ranges from standard physics, biology, and chemistry, to a wide-range of electives including forensics, earth science, environmental, and anatomy and physiology programs. The Attleboro High School Science Department also has a focus on cross-curricular connections between social studies, CTE and special education through its School Farm-to-Table and Science and Public Policy programs. These programs were created in an effort to expand student collaboration, understanding of relevant science in an ever-changing world, and appreciation for an alternative way to solve long-lived problems. The facility used to support these programs includes the two large greenhouses located in the courtyard between our CTE and athletic wings.

Daily instruction within the department takes place in 15 different classroom spaces, most of which are located within the same hallway so as to be within proximity to the school’s large laboratory facility. The classrooms used are not specifically designed for science courses, therefore the condition, setups and physical constraints of each are not adequate for 21st century STEM work. Such work includes solving problems using relevant models, learning in a collaborative setting, and using the scientific method to guide inquiry-based work. The antiquated classrooms present us with the following deficiencies that are negatively impacting our attempted delivery of 21st century STEM standards and curricula on a daily basis:

In addition to the classroom spaces used by the Science Department, there is one large laboratory
shared by all 16 teachers. The laboratory, itself, fits up to four classes of 28 students each. All science courses taught (electives and core-courses) have a lab-based curriculum, therefore teachers and students occupy the laboratory during all periods of the day. The laboratory space has a designated side for chemistry labs with gas jets, high lab benches, troughs and sinks and another for biology and physics labs with low lab benches, stools, gas jets and sinks. Lab activities occur simultaneous to each other on either side of the laboratory regularly. Additionally, there is a shared teacher preparation area found between the two designated sides of the lab with one stockroom for chemicals, perishable and nonperishable supplies, and other lab equipment.

The existing Attleboro High School Science Laboratory is just as outdated as the classrooms. Equipment cannot be fixed because parts are unavailable, student and staff safety is compromised, and many lab exercises required by state and national standards cannot be conducted.

As is the case with the classrooms used within the department, the condition, setup and physical constraints of the laboratory space is not adequate for 21st century STEM work, specifically the ability to use the scientific method to guide inquiry-based laboratory work with our students. The obsolete nature of our laboratory space also presents us with numerous deficiencies that are negatively impacting our attempted delivery of STEM standards and curricula on a daily basis.

Moving forward, science education has become a major component of a 21st century education designed to educate and prepare students for a world driven by research, experimentation, and technology. The purpose of the Attleboro High School Science Department is to teach science in a manner by which students intrinsic curiosity is fostered through questioning and experimenting so as to further inquire about their impact on the world. In order to accomplish this, AHS must put technology and experimentation at the forefront of what is delivered in the classroom and the laboratory. A modern, high tech, 21st century science facility at Attleboro High School, which includes classrooms and a laboratory space, is a must if teachers are to tap into students’ full potential and motivate the next generation of scientists; something our staff sees as the key to our planet’s and species’ future. This facility must prioritize student and staff safety and support current and future STEM learning standards and expectations. In addition to the proposed contemporary science classrooms, areas for performing labs must be outfitted with modern technology to support the 21st century, inquiry-based work of our students, and equipped with enough properly operational safety equipment so as to be in accordance with OSHA and Massachusetts state regulations/guidelines. There must also be a space dedicated for teacher lab preparation that contains enough storage for multiple courses and electives, as well as a properly ventilated stockroom, again, in accordance with OSHA and Massachusetts state regulations/guidelines.

Social Studies Department

Currently the social studies department curriculum is based on the current History and Social Science standards outlined in the MA Curriculum Frameworks. Primary sources, periodicals, virtual tours, field trips, web-based research, and teacher-created lessons all contribute to the design and implementation of the social studies curriculum. In both system and site-based professional development, teachers share best practice and supplemental resources. The social studies teacher is often asked to participate in the design of interdisciplinary units that connect history to current events, and provide students the opportunity to write persuasive essays or support a social commentary on community, state, or global issues.

Looking ahead, the days of classrooms where a teacher at a desk sits at the front of the
classroom and students’ desks are neatly aligned in rows are over. Learning technologies, and changing pedagogical methods, are not only changing the way we teach but also the physical environments we teach in. One thing that is clear from the research of the physical spaces which make up learning environments is that current classrooms seldom facilitate 21st century learning.

The AHS Social Studies department has identified four key elements that affect student learning. Basic human needs, teaching, learning, and engagement. In order to fulfill these elements, a flexible learning space that allows for a variety of seating arrangements is necessary. The chairs should be comfortable and the desks movable in order to facilitate movement. Students will be more engaged as they can move around the room to change up what they are doing at any given moment. Mobile space will also facilitate a variety of pedagogical choices as well. The space should be open to allow for flexibility.

Natural lighting is important for a variety of reasons. There is research that indicates that students are more successful when exposed to natural lights and pure fluorescent lighting has led to various health problems. All rooms should have access to natural lighting through windows, skylights, etc. At the same time, it is important that these be able to be blocked off for security and functional reasons as well.

Practically, it would be nice to have a lot of flexibility in presentation as well. Multiple surfaces to write on with board space as well as corkboard space for displaying student work and brainstorming sessions.

World Languages

The World Languages Department seeks to empower students to communicate in World Languages and gain perspective and understanding of various cultures including their own. The department teaches three languages (Spanish, French and ASL) up to Level 4. Most level 1 and 2 classes (required for graduation) have 25-30 students. The Modern Language Association states that the maximum class size for effective learning of a foreign language is 15. Currently, the department depends on LCD projectors, blackboards and DVD players for classroom technology. Teachers provide their own laptops, speaker systems, and classroom supplies for students. Some DVDs/CDs no longer function because of advances in Laptop technology.

The classrooms accommodate either 25 or 30 students. There is no air conditioning and heat is either oppressively high or non-existent. Current limitations impede the department’s ability to teach the four essential skills (speak, read, listen, and write). “In an average foreign-language class, all students combined speak only 23.5% of the class time” (DESI 2006, pg. 48-49). In a 45-minute long class 23.5% equals approximately 10 ½ minutes. As this number is the speaking time of all students put together, the time each student gets to practice speaking becomes less as class size is increased.

Moving forward, every classroom should be a modern language laboratory (MLL) that supports both teacher-directed and student-centered learning activities that maximize exploitation of technology to promote student engagement with the language and the cultures under study. To achieve this the following physical and curriculum improvements are necessary. The purpose of a language lab is to involve students to actively participate in language learning exercises and get more practice than otherwise possible in a traditional classroom environment.

Common components in a modern language lab:

- Teacher has a computer with appropriate software for conducting language exercises
- Teacher and students wear headsets that block outside sounds and disturbances
● Students have a media player/recorder for listening to audio and recording speech
● Teacher and student positions are connected via LAN (local area network), in some cases also via separate audio cabling
● A server computer or a separate storage device is often used to store lesson materials in a digital format.

TEACHER PLANNING AND ROOM ASSIGNMENTS
Classrooms are assigned in order to limit the number of time teachers must change room locations. A teacher’s classroom is, in large part, their home. There is no “departmental space” where teachers can collaborate, make confidential phone calls, grade student work, etc. Many teachers are able to prepare in the same room that they teach; however, some rooms may be used by other teachers during preparation periods. While there is no policy or expectation that teachers “own” their classrooms, in many cases, teachers instruct in the same room each day.

LUNCH & STUDENT DINING
An important element of adolescent development is in the social realm. Lunch period provides an opportunity for students to socialize and interact with their peers. The configuration of the seating in the cafeterias, long rectangular tables for 10, does not promote positive social interactions and conversation. Recommendations from the design team for effective cafeteria configurations would be welcomed.

Currently, there are three cafeterias each utilized for 4 lunch periods, making a total of 12 lunch periods. This is necessary due to the limited seating in each cafeteria. Scheduling is negatively impacted by the need to have four 20-minute lunch periods. Four lunch periods requires some students to eat as early as 11:00, while others have a lunch period that begins at 12:20, only 1.5 hours before dismissal.

TECHNOLOGY NEEDS AND VISION
The Attleboro Public Schools believes technology is a critical component of educational delivery at all school levels and particularly at the High School. Recently, the District drafted a Technology Plan in an effort to assess and improve the ability to deliver 21st Century instruction. Attleboro High School is 15 years behind in the efforts to offer a TRUE 21st Century Education. However, AHS has reallocated budget funding normally designated for textbooks to purchase Chromebook carts to enhance digital learning. Another Chromebook cart was purchased via donations. AHS is working toward a Bring Your Own Device (BYOD) mentality with aspirations of being a 1:1 school in the near future; however, the minimal Wi-Fi infrastructure that exists requires students to choose to use their data plan to work on-line. Many students cannot afford to do so. It is also a concern that proposed methods to increase technology are hampered by outdated power infrastructure needed to accommodate servers, Wi-Fi hotspots, and additional computers.

MEDIA CENTER/LIBRARY
Currently, the Library/Media Center is staffed by a Library Media Specialist and a Paraprofessional. The space has been subdivided through the years to add classrooms to serve students. There are 4 computer labs within the space. Moving forward, there is still a
place for traditional library models and probably always will be, but more and more schools are transforming their spaces to include elements of “Learning Commons.” Learning Commons are built around the idea that space should be flexible and versatile. Mixed use space in a Learning Commons can be used for research, collaboration, creating, technology use and support, connecting globally, producing, and much more.

Today’s School Library Media Centers are, without question, evolving. The Internet Age has greatly increased our ability to access unprecedented amounts of information in many different formats. One current and yet naïve school of thought, incorrectly assumes that the amount of information available on the open internet will satisfy all academic needs. The underlying assumption is that students and teachers will be able to successfully navigate the complex web of information available, delve deeply to find the best quality information and be able to do this in a rapidly changing environment. The truth is that libraries and professional librarians are more essential than ever, but the services and skills they provide and the space they utilize is changing.

**VISUAL AND PERFORMING ARTS**

Currently, arts classes are split up into multiple locations around the school. The Music Department is near the central office and auditorium while Visual Arts is across from the Principal’s Office.

Current offerings and status:

- The department has 4 classrooms which enroll about 28 students per room. These classrooms were designed to accommodate 15 students. Since space is at a minimum, it is difficult to circulate the class. To walk to the other side of the room, one needs to navigate through small spaces and carefully walk over backpacks.
- Oftentimes, 3 classes are running simultaneously in an open area without walls dividing up the space.
- Current curriculum: 3 art teachers offering ceramics, jewelry & metalsmithing 1 & 2, drawing 1 & 2, painting 1 & 2, art 1, art 2a, art 2b, & portfolio art. One music teacher who is responsible for instrumental and vocal music.
- Original lighting was neither upgraded nor replaced
- Rooms are poorly ventilated.

Visual Arts would be, moving forward, part of a Fine Arts Center, to include all fine arts offerings including, but not limited to, instrumental music, choir, theater, and the various mediums of art. The departmental vision includes a student-run Gallery that could be proximate to other community-driven programs in the school’s CTE program. It could be called “Gallery Blue” and have locked display cases to house jewelry & 3D work. The classrooms should be set up ‘studio style’ like a classroom setting in a college-adequate ventilation with adequate natural lighting, furnishings, and technology.

**MUSIC/PERFORMING ARTS**

Music and Performing Arts programs at AHS include theater, chorus, marching band, concert band, and jazz and. Classrooms and limited practice spaces for these subjects are clustered on
the first floor adjacent to Central Office and the Auditorium.

**Physical Education**

AHS has two gymnasiums that offer a range of athletic activities such as basketball, volleyball, and cheer. Located in between the 2 gymnasiums are the boys’ and girls’ locker rooms, fitness room, and the weight room. While both gyms and locker rooms provide ample space, they are both in a general state of disrepair. The pool is also adjacent to both gyms. It has faced significant problems with its filtration system and dehumidification.

The vision of the Attleboro High School health and physical education department is to improve overall student wellness by increasing health literacy, fostering healthy self-management skills, and promoting a healthy lifestyle through the development of positive attitudes toward lifetime fitness and leisure activities.

Attleboro High School has a four year physical education graduation requirement which includes two years of comprehensive health. Students participate daily in physical education or health for one trimester each year. The physical education requirement is met for students during 10th and 11th grade. The physical education program at Attleboro High School is designed to offer students the necessary knowledge and skills to promote an understanding of lifelong wellness. The focus of the physical education classes is on the five health related fitness components: Muscular Endurance, Muscular Strength, Cardiovascular Endurance, Flexibility, and Body Composition. Students study and practice current trends in health and fitness as well as discuss risk behaviors associated with lifestyle disease. All students are exposed to a department developed fitness assessment. The physical education curriculum provides opportunities to improve and maintain a healthy level of fitness. This curriculum is designed to give students a background in skills and activities. Each unit is based on an 8-10 day cycle. Students are asked to select one of the options for coursework during each cycle. Student voice is critical in this process. The options always involve both low and high impact activities. AHS also has an Adapted Physical Education program in which a small portion (45-50 students) have physical education daily throughout the entire school year. The program is designed to provide students the opportunity to learn basic skills and rule concepts through hands-on participation in physical education activities (team/individual sports, personal fitness, and lifelong leisure activities) that are modified to meet each individual.

Students are also required to take a trimester of health in 9th grade and 12th grade. The health curriculum is based on the three areas of the Massachusetts Health Curriculum Frameworks: health literacy, healthy self-management and health promotion. Health units cover a variety of topics including: human sexuality and reproduction, healthy relationship skills and family life, mental and emotional health, nutrition, disease prevention and controls, consumer health and tobacco, alcohol and other drugs. Students participate in variety of different learning activities that are a combination of teacher and student centered. Students also have the opportunity to share their beliefs and build their own value of health in a safe and structured learning environment. There are individual and group assignments, and students have a voice as presenters and are given many ways to share information about healthy and unhealthy practices in health classes. There is a reasonable amount of technology infused into the health classes with the introduction of Google Classroom over the past few years. Unfortunately, classes have to travel to a computer lab or move technology to the health classes which inhibits the effectiveness of the technology-driven assignments. Overall, the health classes are very successful in delivering updated and practical information to our students about how to live a healthy lifestyle.

The current facility severely impacts the program of study that can be offered to our students.
The health classes and physical education classes are not located in a central area due to the lack of classrooms in the physical education area. The classrooms are lacking accessible technology and resources needed to deliver a curriculum that is current with today’s needs. There are many student privacy and safety concerns in the physical education area of the building. The locker rooms don’t have enough bathroom facilities and private areas to change and accommodate the various needs of each and every student (handicapped, transgender, etc). The space is poorly designed in practicality and doesn’t provide enough lockers to for students/athletes to lock their equipment and valuables making theft a common occurrence. The existing gymnasium space is too crowded and over scheduled to accommodate and integrate APE, OT, PT activities into the mainstream physical education courses. The “large” gymnasium is too small to accommodate the size of our classes and the current demand during the school day. There are no dividers that operate to help make the space more practical. The bleachers are broken and often protrude out into the gym space to make the space even smaller. The athletic teams do not have adequate storage and often leave their equipment in the gym during the season which impedes on gym space and becomes a safety concern. There are many times in the year that physical education classes don’t have access to the gymnasium because of other events using the space. The small gym in the back is only accessible through the locker rooms which is a major safety issue and hindrance when trying to locate teachers and students that are in that gymnasium. The floor is a rubber material that becomes a safety concern because of the inability to keep it clean. It also gets sticky or slippery at various times of the year due to change in humidity levels throughout the year. The fitness room and weight room are currently too small to safely utilize the space properly. The over crowdedness poses many safety and liability issues to utilize the space effectively. There is a large pool that is old and under-utilized due to ventilation issues and sanitation issues. This space would be better utilized as a fitness center/ weight training area.

**Special Education and Alternative Pathways**

Students who require Special Education services are served in various ways based on service delivery. Some are enrolled in inclusion classes with support by a special educator who collaborates with the primary teacher. AHS also offers programs for students with more need in certain areas. It should be noted that The Network Alternative program, a satellite public day program, and Attleboro Community Academy would be best suited for the current campus and physical plant. Given the services provided by these unique programs, it is the vision of AHS to tuition in students from out-of-district. Due to space constraints, the Network is housed in an aging building (circa 1912) with poor ventilation, poor air quality, and the lack of environmental controls to manage heating and cooling. Additionally, there is virtually no technology infrastructure.

In addition, the Attleboro Public Schools offer many programs for students with disabilities. As these programs evolve, there is a greater need for adaptive technology and space.

According the Department of Elementary and Secondary Education (DESE), Special education facilities and classrooms should align with the guidelines listed below. The school district provides facilities and classrooms for eligible students that:

- Maximize the inclusion of such students into the life of the school
- Provide accessibility in order to implement fully each student’s IEP
- Are at least equal in all physical respects to the average standards of general education facilities and classroom
- Are given the same priority as general education programs in the allocation of instructional and other space in public schools in order to minimize the separation or stigmatization of eligible students
- And are not identified by signs or other means that stigmatize such students.

These policies above are in direct alignment with the following items:

- 603 CMR 28.03(1)(b)
- Section 504 of the Rehabilitation Act of 1973
- SE 55 is related to State Performance Plan Indicator 5

Students who require Special Education services are served in various ways based on service delivery. Some are enrolled in inclusion classes with support by a special educator who collaborates with the primary teacher. AHS also offers programs for students with more need in certain areas. It should be noted that The Network and Attleboro Community Academy would be best suited for the current campus and physical plant. Given the services provided by these unique programs, it is the vision of AHS to tuition in students from out-of-district. Due to space constraints, the Network is housed in an aging building (circa 1912) with poor ventilation, poor air quality, and the lack of environmental controls to manage heating and cooling. Additionally, there is virtually no technology infrastructure. In addition, the Attleboro Public Schools offer many programs for students with disabilities. As these programs evolve, there is a greater need for adaptive technology and space.

The following is a listing of current programs that AHS intends to maintain after project completion as well as current enrollment.

**The Network**

Current Enrollment: 20

Location: 135 County Street, Attleboro

*The Network Program offers an alternate, therapeutic public day program for students with significant social, emotional deficits, which have impeded their ability to succeed academically and/or socially.* Due to space constraints, the Network is housed in an aging building (circa 1912) with poor ventilation, poor air quality, and the lack of environmental controls to manage heating and cooling. Additionally, there is virtually no technology infrastructure. As we plan to tuition in students from other districts, our staffing and space needs will increase.

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**Essential College Prep (ECP)**

Current Enrollment: 46

Subjects: English, math, science and social studies

The Essential College Prep course provides specialized instruction to students’ who achievement is below grade level and have moderate special needs. Instruction occurs within a substantially separate setting. Special educators provide direct instruction in all selected core content areas as well as reinforcement of skills and concepts. Students receive small group instruction using a variety of specialized instructional strategies, and accommodations and modifications to assist them with learning and mastery of skills. Currently, many of these classes are taught in spaces that do not meet the needs of the program specifically individual and small-group support that many of these students require.
Student Support Classroom

Current Enrollment: 25

This program is a highly structured therapeutic environment that provides additional supports to students within the high school setting who have been identified with social, emotional and behavioral needs. The Student Support Classroom places an emphasis on the development and implementation of well-coordinated and consistent therapeutic and academic interventions for students on IEPs. The current classroom is a former departmental workspace that is inadequate to house this growing program.

Alternative Learning Program (ALP)

Current Enrollment: 23

This substantially separate program serves students with moderate to severe perceptual communication, learning developmental and cognitive deficits that impede progress in basic functional areas. These students are functioning significantly below grade level (2 or more years) and require specialized instruction as outlined in the individualized education program (IEP) to access the curriculum. The current classrooms are not properly equipped to deliver a curriculum rooted in the development of functional skills and in the areas of self-help and adaptive daily living (ADL) skills.

Multi-Dimensional Adaptive Program (MDAP)

Grades: 9-12+

Current Enrollment: 5

This substantially separate district program provides specialized educational instruction to students with intensive special needs which include medical, cognitive, and learning needs. The current classrooms are not properly equipped to deliver a curriculum rooted in the development of functional skills and in the areas of self-help and adaptive daily living (ADL) skills. Our poor technology and wiring infrastructures prevent AHS from fully addressing visual/auditory needs, communication and use of assistive technology to build skills and enhance learning.

12+ Transition Program

Grades/Age: 12+, 18 years of age

Current Enrollment: 15

This substantially separate program serves students who are functioning significantly below grade level, have completed 4 years of high school, with deficits that impede progress in basic functional areas. This program provides assistance in the development of functional skills and in the areas of self-help, adaptive daily living (ADL) skills, social interactions, communication, and basic academic concepts to assist in the development of independence. Students will focus on creating their own plan for the future by developing transitional skills. The program is currently offered in a temporary space that is not properly equipped to deliver a curriculum rooted in the
development of functional skills and in the areas of self-help and adaptive daily living (ADL) skills. Our poor technology and wiring infrastructures prevent AHS from fully addressing visual/auditory needs, communication and use of assistive technology to build skills and enhance learning.

SPECIAL EDUCATION COORDINATED PROGRAM REVIEW

CPR was completed in the 2015-2016 school year. At this time, a corrective action has been submitted and accepted. The 2 following criteria for special education are currently still partially implemented as of the first progress report in October, 2016. Full compliance is due by 4/10/2017.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Criterion Title</th>
<th>CPR Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE 7</td>
<td>Transfer of parental rights at age of majority and student participation and consent at the age of majority</td>
<td>Partially Implemented</td>
</tr>
<tr>
<td>SE 22</td>
<td>IEP implementation and availability</td>
<td>Partially Implemented</td>
</tr>
</tbody>
</table>

SE 7 Transfer of parental rights at age of majority and student participation and consent at the age of majority

Finding: Review of student records and staff interviews indicated that the district does not always inform the student and the parent/guardian at least one year prior to the student reaching age 18 of the rights that will transfer from the parent/guardian to the student upon the student's 18th birthday.

SE 22 IEP implementation and availability

Finding: Review of documents and staff interviews indicated that the district does not always provide the mutually agreed upon services in the IEP. Specifically, 17 students at the high school receive only 50% of speech and language services specified in the service delivery grid of their IEPs. Interviews of staff indicated that lack of sufficient personnel to serve the number of students requiring speech and language services at the high school is a contributing factor in their inability to fully implement some IEPs. Furthermore, parents have not been informed in writing of any delayed services, reasons for delay, actions that the school district is taking to address the lack of personnel and offered alternative methods to meet the goals on the accepted IEP.

Programs/Services to be Addressed as a result of Project

1. 12+ Program: Our current facility and the program's current location does not allow for a comprehensive Transition Curriculum to be implemented. A new design should incorporate the opportunity for 12+ students to have a distinct entry and access to transportation so as to access community opportunities.

2. The Network Alternative Program, as well as the Attleboro Community Academy (ACA), should be moved to the main campus.
**Vocational Education Programs**

As a comprehensive high school, AHS prides itself on its heritage of offering robust Career and Technical Education programs under Chapter 74. Our comprehensive vocational technical education (CTE) program is offered to students who wish to obtain a technical certificate in addition to meeting their high school diploma requirements. Approximately 25% of our graduates are enrolled in this program. Students in our CTE program pick an area of concentration in June of their freshman year and remain in that program for the final three years of high school.

The CTE program is designed to provide students with the highest quality of instruction available. Students will gain knowledge in a wide variety of career and technical education opportunities. For example, some of our options include, but are not limited to the following:

- Placements with local businesses in related fields
- Licensing where required
- Employment at entry level and above
- Admission to post-secondary technical institutes
- Admission to both two and four year colleges and universities

All ninth graders who participate in the Exploratory Program do so because it is designed to help them learn about their talents and interests relative to a variety of different CTE programs. Students initially explore each vocational technical shop for approximately 8 days each during the freshman year. Students are evaluated and graded by each shop teacher during “Exploratory” using a grading rubric. At the end of the freshman year, students select his/her program of choice, as well as a second and third choice. If the number of students seeking a placement into a particular shop exceed the number of openings, the grades received by all students considering that program will be rank ordered to determine who is placed in that shop. If a shop fills and a student does not get his/her first choice, the guidance counselor and student will meet to assign the student to his/her second or third choice, pending space availability.

Moving forward, as this project is designed, Attleboro High School has a goal to significantly increase the number of graduates who matriculate through our CTE program. Currently, approximately 25% of each graduating class completes our CTE program. Given the shift at AHS in educational delivery to learning that is more relevant and project-based, as well as the ever-increasing cost of postsecondary education, the goal is to have that increase to at least 50%.

In order to accomplish this goal, a three-pronged approach will be followed:

- Grow interest so as to increase the number of available seats in existing programs to the point where all become two-person shops.
- Add the four programs outlined below.
- Continue to assess Labor Market trends and recommend implementation of new Chapter 74 programs necessitating the need for flexible spaces.
Current vocational educational programs offered at AHS include:

**Chapter 74 Offerings (Please see addendum for descriptions.)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>470604</td>
<td>Automotive Technology</td>
</tr>
<tr>
<td>460201</td>
<td>Carpentry</td>
</tr>
<tr>
<td>110401</td>
<td>Computer Information Systems</td>
</tr>
<tr>
<td>430107</td>
<td>Criminal Justice</td>
</tr>
<tr>
<td>120500</td>
<td>Culinary Arts</td>
</tr>
<tr>
<td>500401</td>
<td>Design &amp; Visual Communications</td>
</tr>
<tr>
<td>131210</td>
<td>Early Education &amp; Care</td>
</tr>
<tr>
<td>460302</td>
<td>Electrical</td>
</tr>
<tr>
<td>150000</td>
<td>Engineering</td>
</tr>
<tr>
<td>100301</td>
<td>Graphic Communications</td>
</tr>
<tr>
<td>510801</td>
<td>Medical Assisting</td>
</tr>
<tr>
<td>460503</td>
<td>Plumbing</td>
</tr>
<tr>
<td>480599</td>
<td>Metal Fabrication &amp; Joining</td>
</tr>
<tr>
<td>990100</td>
<td>Exploratory</td>
</tr>
</tbody>
</table>

**CTE-related Offerings**

- Home Maintenance
- Intro to Food Services
- Landscaping (partnership with Special Education Department)
- Technical Drawing
- Web Design

**Chapter 74 Programs Under Consideration**

- Robotics and Automation
- Cosmetology
- Dental Assistant and Hygienist
- HVAC (Heating, Ventilation, and Air Conditioning)
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 reflect a significant improvement from earlier projections. At the same time, the majority of job openings (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.

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.

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).

ENGINEERING, CONSTRUCTION, AND TRADES

Most of the occupations in this academy are characterized by moderate growth rates, with openings due primarily to replacement. Plumbers and Electricians 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).

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.

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**

Health Assisting and Early Childhood Education are 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.

The wages for some occupations in this academy are modest, at best. Median Wages for Health Aide occupations was 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).

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.
### MASSACHUSETTS EMPLOYMENT PROJECTIONS
#### 2010-2020
#### ENGINEERING CONSTRUCTION & TRADES OCCUPATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent Employment Change 2010-2020</th>
<th>Percent Openings Due to Growth</th>
<th>Percent Openings Due to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive Service Technicians</td>
<td>3.6</td>
<td>12.1</td>
<td>87.9</td>
</tr>
<tr>
<td>Carpenters</td>
<td>1.3</td>
<td>5.8</td>
<td>94.2</td>
</tr>
<tr>
<td>Plumbers &amp; Pipefitters</td>
<td>11.6</td>
<td>28.7</td>
<td>71.3</td>
</tr>
<tr>
<td>Electricians</td>
<td>11.0</td>
<td>28.9</td>
<td>71.1</td>
</tr>
<tr>
<td>Helpers, Carpenters</td>
<td>27.7</td>
<td>51.9</td>
<td>48.1</td>
</tr>
<tr>
<td>Helpers, Plumbers</td>
<td>28.5</td>
<td>52.0</td>
<td>48.0</td>
</tr>
<tr>
<td>Helpers, Electricians</td>
<td>14.9</td>
<td>36.0</td>
<td>64.0</td>
</tr>
<tr>
<td>Sheet Metal Workers</td>
<td>10.5</td>
<td>38.8</td>
<td>61.2</td>
</tr>
<tr>
<td>Structural Metal Workers</td>
<td>27.4</td>
<td>54.0</td>
<td>46.0</td>
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<tr>
<td>Welders, Cutters, Soldering</td>
<td>18.6</td>
<td>41.0</td>
<td>59.0</td>
</tr>
<tr>
<td><strong>TOTAL, ALL OCCUPATIONS</strong></td>
<td><strong>13.7</strong></td>
<td><strong>37.9</strong></td>
<td><strong>62.1</strong></td>
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### MASSACHUSETTS EMPLOYMENT PROJECTIONS
#### 2020-2020
#### ENGINEERING CONSTRUCTION & TRADES

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent Employment Change 2010-2020</th>
<th>Percent Openings Due to Growth</th>
<th>Percent Openings Due to Replacement</th>
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</thead>
<tbody>
<tr>
<td><strong>PROGRAMMING AND WEB DESIGN</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Computer Programmers</td>
<td>13.5</td>
<td>36.8</td>
<td>63.2</td>
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<tr>
<td>Computer Support Specialists</td>
<td>21.0</td>
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<td>55.5</td>
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<td>Information Security and Web design</td>
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<tr>
<td><strong>DESIGN AND VISUAL COMMUNICATION</strong></td>
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<tr>
<td>Graphic Designers (includes Video Games)</td>
<td>15.9</td>
<td>33.9</td>
<td>66.1</td>
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<tr>
<td>Commercial and Industrial Designers</td>
<td>19.5</td>
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<td>67.4</td>
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<tr>
<td>Sound Technicians</td>
<td>15.6</td>
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<tr>
<td><strong>ROBOTICS ENGINEERING AUTOMATION</strong></td>
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<tr>
<td>Electro-Mechanical Technicians</td>
<td>10.3</td>
<td>34.3</td>
<td>65.7</td>
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<tr>
<td>Mechanical Engineering Technicians</td>
<td>11.3</td>
<td>37.0</td>
<td>63.0</td>
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<tr>
<td>Manufacturing Production Technicians</td>
<td>11.6</td>
<td>38.5</td>
<td>61.5</td>
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<tr>
<td>Electrical and Electronic Technicians</td>
<td>7.9</td>
<td>29.5</td>
<td>70.5</td>
</tr>
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### MASSACHUSETTS EMPLOYMENT PROJECTIONS 2010 -2020
#### LIFE SCIENCES AND SERVICES OCCUPATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Percent Employment Change 2010-</th>
<th>Percent Openings Due to Growth</th>
<th>Percent Openings Due to Replacement</th>
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<tbody>
<tr>
<td><strong>HEALTH AND DENTAL ASSISTING</strong></td>
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<tr>
<td>Medical Assisting</td>
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<td>45.6</td>
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<td>Home Health Aides</td>
<td>53.7</td>
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<td>Nurse’s Aide</td>
<td>19.4</td>
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<td>Personal and Home Care Aides</td>
<td>45.4</td>
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<tr>
<td><strong>CULINARY</strong></td>
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<tr>
<td>Chefs and head Cooks</td>
<td>-4.0</td>
<td>0</td>
<td>100.0</td>
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<tr>
<td>Cooks, Fast Food</td>
<td>-6.5</td>
<td>0</td>
<td>100.0</td>
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<tr>
<td>Cooks, Institutions and</td>
<td>17.8</td>
<td>45.5</td>
<td>54.5</td>
</tr>
<tr>
<td><strong>Culinary, Restaurants</strong></td>
<td>8.8</td>
<td>29.2</td>
<td>70.8</td>
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<tr>
<td>Cooks, Short Order</td>
<td>2.6</td>
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<td>88.8</td>
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<tr>
<td>Bakers</td>
<td>7.5</td>
<td>20.6</td>
<td>79.4</td>
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<tr>
<td>Food Preparation Workers</td>
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<td>83.0</td>
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<tr>
<td><strong>EARLY CHILDHOOD EDUCATION</strong></td>
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</tr>
<tr>
<td>Pre School Teachers</td>
<td>17.5</td>
<td>40.2</td>
<td>59.8</td>
</tr>
<tr>
<td>Kindergarten Teachers</td>
<td>18.6</td>
<td>41.9</td>
<td>58.1</td>
</tr>
<tr>
<td>Child Care Workers</td>
<td>16.1</td>
<td>33.8</td>
<td>66.2</td>
</tr>
<tr>
<td>Teacher Aide</td>
<td>13.5</td>
<td>40.8</td>
<td>59.2</td>
</tr>
</tbody>
</table>

### LABOR MARKET WAGE PROJECTIONS

#### MASSACHUSETTS EMPLOYMENT LEVELS AND WAGES ENGINEERING CONSTRUCTION & TRADES OCCUPATIONS

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Automotive Service Technicians</td>
<td>18,056</td>
<td>$28,110</td>
<td>$41,110</td>
</tr>
<tr>
<td>Carpenters</td>
<td>21,558</td>
<td>$36,180</td>
<td>$53,360</td>
</tr>
<tr>
<td>Plumbers &amp; Pipefitters</td>
<td>11,247</td>
<td>$42,630</td>
<td>$62,790</td>
</tr>
<tr>
<td>Electricians</td>
<td>12,790</td>
<td>$41,110</td>
<td>$59,420</td>
</tr>
<tr>
<td>Helpers, Carpenters</td>
<td>1,273</td>
<td>$27,220</td>
<td>$35,550</td>
</tr>
<tr>
<td>Helpers, Plumbers</td>
<td>605</td>
<td>$17,590</td>
<td>$28,840</td>
</tr>
<tr>
<td>Helpers, Electricians</td>
<td>1,794</td>
<td>$24,900</td>
<td>$33,230</td>
</tr>
<tr>
<td>Sheet Metal Workers</td>
<td>1,985</td>
<td>$32,460</td>
<td>$57,050</td>
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<tr>
<td>Structural Metal Workers</td>
<td>1,463</td>
<td>$29,360</td>
<td>$40,950</td>
</tr>
<tr>
<td>Welders, Cutters, Soldering</td>
<td>3,054</td>
<td>$31,290</td>
<td>$43,840</td>
</tr>
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</table>
## Massachusetts Employment Levels and Wages

### Engineering Construction & Trades Occupations

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Programming and Web Design</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Programmers</td>
<td>10,552</td>
<td>$52,750</td>
<td>$76,270</td>
</tr>
<tr>
<td>Computer Support Specialists</td>
<td>23,289</td>
<td>$38,680</td>
<td>$56,580</td>
</tr>
<tr>
<td>Information Security and Web Design</td>
<td>11,950</td>
<td>$61,220</td>
<td>$88,360</td>
</tr>
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</table>

### Health Assisting Occupations

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Assisting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Assisting</td>
<td>15,664</td>
<td>$29,000</td>
<td>$35,600</td>
</tr>
<tr>
<td>Nurse’s Aide</td>
<td>49,883</td>
<td>$24,060</td>
<td>$28,760</td>
</tr>
<tr>
<td>Home Health Aide</td>
<td>26,800</td>
<td>$21,680</td>
<td>$26,480</td>
</tr>
<tr>
<td>Personal and Home Care Aide</td>
<td>31,776</td>
<td>$20,860</td>
<td>$25,780</td>
</tr>
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</table>

### Culinary / Hospitality

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Chefs and Head Cooks</strong></td>
<td>3,396</td>
<td>$37,820</td>
<td>$52,010</td>
</tr>
<tr>
<td>Cooks, Fast Food</td>
<td>6,062</td>
<td>$17,730</td>
<td>$19,350</td>
</tr>
<tr>
<td>Cooks, Institutions &amp; Cafeterias</td>
<td>10,134</td>
<td>$22,650</td>
<td>$30,500</td>
</tr>
<tr>
<td>Cooks, Restaurants</td>
<td>26,254</td>
<td>$21,660</td>
<td>$27,430</td>
</tr>
<tr>
<td>Cooks, Short Order</td>
<td>3,787</td>
<td>$19,120</td>
<td>$25,830</td>
</tr>
<tr>
<td>Bakers</td>
<td>4,862</td>
<td>$19,890</td>
<td>$27,370</td>
</tr>
<tr>
<td>Food Preparation Workers</td>
<td>20,489</td>
<td>$17,920</td>
<td>$22,200</td>
</tr>
</tbody>
</table>

### Early Childhood Education

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Pre-School Teachers</td>
<td>16,073</td>
<td>$23,640</td>
<td>$31,190</td>
</tr>
<tr>
<td>Kindergarten Teachers</td>
<td>4,459</td>
<td>$33,480</td>
<td>$60,770</td>
</tr>
<tr>
<td>Child Care Worker</td>
<td>36,322</td>
<td>$19,280</td>
<td>$24,600</td>
</tr>
<tr>
<td>Teacher Aide</td>
<td>38,639</td>
<td>$19,180</td>
<td>$25,830</td>
</tr>
</tbody>
</table>
**LABOR MARKET INFORMATION FOR PROPOSED PROGRAMS**

- **Robotics and Automation** features three occupations that 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. Entry level wages are between $41,000 and $42,000.

- **Cosmetology** is among the programs with the most absolute openings, approaching 800 annually. Median wages are a modest $29,000.

- **Dental Assistant and Hygienist** positions are expected to increase 18% by 2020, with entry level wages of $29,000 to $31,000.

- **Heating, Ventilation, and Air Conditioning (HVAC)** positions are expected to increase 13% by 2020, with entry level wages of $39,180.

**WORK EXPERIENCE PROGRAMS**

Vocational students who meet the eligibility requirements may participate in coop. Senior classes are scheduled at the end of the day to accommodate students leaving during their vocational class. Internship opportunities are offered to students also. Depending on the program, students are excused from their CTE class to have experiential learning opportunities at the Attleboro High School childcare center, local preschools, and at elementary schools.

In addition to those opportunities for career and technical-education students, other students have several opportunities to explore careers beginning in 10th grade.

The Career Exploration Program is open to all 10-12 students through the School to Career Partnership through two pathways. In Pathway 1 - students are coached in writing resumes, cover letters and preparing for informational interviews. In Pathway 2 - students can choose to do a one-day job shadow, a short-term job observation, or a more long-term internship with a community placement.

The Experiential Learning Program offers outside placements to juniors and seniors through the courses of Community Leadership and Independent Community Leadership. In these courses students are expected to complete a 40-hour internship over the course of a trimester at a placement that matches with their career interests. They receive credits for these classes.

Work Study is offered to juniors and seniors who have jobs off campus and who have met their graduation requirements. Students are dismissed and can report to their jobs. Students do not receive credit for these classes.

**CO-CURRICULARS**

Attleboro High School gives students access to a range of supervised after-school programs that support the development of academic and social skills, and foster civic engagement through service projects. In addition, AHS continues to offer a range of co-curricular clubs and activities (such as student government, Drama club, etc.) and a full complement of MIAA-sanctioned athletic teams at the varsity and junior varsity levels. It is expected that any new school construction will include appropriate resources and spaces for these co-curricular options.
SUMMER – EXPANDED YEAR

The Attleboro Public Schools continues to utilize its summer programming to provide remediation, enrichment, and transitional supports. In recent years, programs have been developed to offer students opportunities for credit recovery after receiving low course grades and/or having excessive class absences. Both direct instruction and virtual options (Odysseyware) have been employed to support a range of course options for students. In addition, transition programs for students moving from grades 8 to 9 have been developed to ensure that students are provided with the additional academic, social, and behavior supports necessary for successful promotion. Recent grants, such as the Mass Grad Initiative, have been applied to offer families low or no cost options for these summer opportunities.

A DAY IN THE LIFE OF AN AHS STUDENT

Attleboro High School is where students, teachers, administrators, support personnel, and parents exhibit all aspects of Blue Pride. As a comprehensive high school, AHS works to provide its students a well-rounded and rigorous academic and career and technical program that is designed to meet the challenges of the future while forming contributing members of our community. The Attleboro Public Schools have developed a Vision, Mission, Essential Beliefs, and Goals that are the guiding principles of the Envisioning 2020 strategic plan which is anchored by the mindset that the Attleboro Public Schools will “develop and deliver relevant learning experiences that engage, challenge, and inspire all students to maximize their unique potential and improve our world.” Students have access to a positive and collaborative environment that encourages and affirms academic achievement and personal excellence and inspires all students to make a positive contribution to society.

AHS makes a commitment to a standards-based academic program that is reflected in a strong college preparatory program, which includes many honors and Advanced Placement courses. Students also have the opportunity to take accelerated classes through colleges and universities. Just as important, as a comprehensive high school, Attleboro High School looks to educate the whole person by also offering courses in technology, art, business, choral and instrumental music, drama, physical education and the vast offering of courses offered by our Career and Technical Education Program. Many students become involved in our athletic programs, academic competitions, visual and performing arts programs, student government, and student clubs.

2016-2017 is the year of the “student experience” at Attleboro High School — a time where students at AHS are beginning to step outside of their comfort zone and take charge of their education. The school community is looking toward a future where students are inspired and empowered to have a voice in what goes on between the hours of 7:15 a.m. through 1:50 p.m. If students are encouraged by their teachers to start seeking out ways to make school more engaging to them, it will result in students finding their ultimate purpose.

Research shows that students desire an environment where their voice is listened to, sought out, and valued. A lack of these components leads students to question their purpose and lose interest in their classes. In a time where teachers are training students in a technological world where it’s nearly impossible to predict the jobs of the future, it’s important that educators are open to a variety of learning techniques, and at AHS that is already happening. Project based learning and interdisciplinary learning are valued and desired methods of instruction amongst both students and staff but the current building and infrastructure present significant
impediments to implementing these increasingly essential methods of instruction. We currently lack the technological capacity to engage in true 21st century learning as the building lacks access to reliable WiFi and there are limitations on what is possible because of the configuration of the classroom space in the building. There are few classrooms that can accommodate anything beyond a traditional size class along with few flexible spaces that could be optimized for collaborative work with access to technology. A student currently has very limited access to any kind of learning beyond siloed instruction in separate disciplines that lack any meaningful integration. This is in many ways a result of our structural and technological limitations. This is not how we as a school want it to be, but the building presents many roadblocks to innovation and improvement. We envision a school that provides students with the opportunity to engage in real world work (problem and project based learning) that emphasizes essential college and career skills like communication, collaboration, critical thinking and problem solving in an interdisciplinary setting.

**TRANSPORTATION POLICIES**

Currently, approximately 68% of our overall student population is eligible for fee-for-service school transportation. A large percentage of Attleboro High School students are transported to school through transportation methods other than the school bus. Our current parking availability is limited as it accounts for less than 20% of our student and staff headcount. Attleboro is a relatively large community and it is important that appropriate transportation is available throughout the entire city for optimal school attendance by our students. For this reason, ample student parking and visitor parking, as well as an effective student drop-off and pick-up process, are crucial to the design of the proposed school. These considerations need to also take into account the very robust after school program at the high school, both in terms of athletics as well as a wide range of other curricular activities. The parking and pick-up and drop-off process need to be developed comprehensively, not to simply address school day needs.

**FUNCTIONAL AND SPATIAL RELATIONSHIPS AND ADJACENCIES**

In prior conversations at the school, district, and city levels about shaping the high school of the future, several key concepts were emphasized as goals in a new or remodeled school. They include the following key words and descriptors:

**Integrated:** The school should be organized so that different subject areas, including career-tech and various academic-content areas, can be interrelated. This will be achieved by more closely linking (through building design) courses and programs in a way that allows interdisciplinary learning and application. This integration of courses and programs will create a coherent set of connected and visibly interrelated programs.

**Application:** The school spaces should be organized so that learning can be related to the world outside of school through the immediate and direct application of knowledge. Thus, laboratory, project, common, and workspaces are important to future design. These spaces will support open-ended, active and project-based learning experiences in both the short and longer term.

**Flexible:** Spaces should be designed to support personalized learning paths for students and may be changed and altered in real time as schedules, programs, and best practices change. This arrangement enables the staff to use the design of the building to the school to adapt and respond to the needs of each student. In the realm of CTE programs, the redesigned Attleboro High School will be preparing students for jobs that have not even been conceived; therefore, the CTE lab (shop) spaces should be designed with the potential for expansion and possible repurposing for new programs.
Relevant, Personalized: Enabling the development of relationships between students and teachers is critical to supporting student engagement, goal setting, and college/career aspirations. Thus, the development of smaller learning communities should be reflected as part of the school plan. While it is Attleboro’s preference to group learning spaces by department, consideration should be given to grouping these constituencies for collaborative endeavors in STEM, Humanities, Science and Wellness, and Fine and Performing Arts. Additionally, consideration should be given to the placement of CTE programs that could logically collaborate with core academic departments.

Accessible: All opportunities should be available for all students, reflecting the fact that our high school is a microcosm of the greater community and society at large. Thus, regardless of their program or pathways, language, race, economic status, or range of abilities, all students should be seamlessly connected to the educational opportunities within the building.

Collaborative: It is important that teachers work together in curriculum development, analyzing student work, sharing best practices, team teaching, and participating in school decisions. Thus, spaces for this collaborative work should be part of the school design.

Similarly, it is important that students have an equal opportunity to develop those 21st century skills of collaboration, communication, critical thinking, and creativity – all requiring opportunities for working together, sharing, presenting, and showcasing.

Technology Integration: Attleboro’s Strategic plan, Envisioning 2020, clarifies the future reality in which technology will be an integral part of a high school student’s experience. That technology should be integrated into classrooms to support instruction and into common workspaces throughout the school. In addition, virtual labs, which link students to other high schools, colleges, and virtual providers, should be considered in the design. Ultimately, technology is to be integrated in a meaningful and transparent manner into all aspects of education.

Administration: The administration, including related support and counseling staff, should be easily accessible and welcoming to students and the public. We ask that a new design continue to incorporate Central Office as a part of the high school’s campus; however, it is important that the gateway to the high school be repositioned at the entrance to the campus. The current configuration is confusing to many and detracts from the ability to welcome members of our community. Our goal is to provide a warm reception of students, families, and community members.

Additionally, in terms of student support, Attleboro seeks to create an area of academic and counseling support. There are two Assistant Principals for both Student Services and Academics. Both work in concert with Guidance, counseling services, Special Education and testing. Currently, the 2 Assistant Principals are located together, but it would be beneficial to have academic and support services in one location.

At present AHS operates with a House structure whereby students are arranged vertically at random (while keeping siblings together) in 3 similar House offices. Each House is staffed by a Dean of Students, 2 Guidance Counselors, and a Secretary. AHS also has a fourth Dean who serves the dual role of Disciplinarian and Adjustment Counselor for our Attleboro Community Academy (ACA) as well as other members of the AHS at-risk student population. It is Attleboro’s intention to maintain House Offices that are located strategically throughout the school facility to support on-time academic, social, and behavioral supports.

Health and Wellness: AHS makes every effort to infuse resources, curriculum, and training to support positive healthful eating and exercise habits. A new design should include daily
opportunities for physical exercise through fitness rooms, walking paths and tracks, and gymnasium spaces. Attleboro High School also houses a pool/natatorium which serves to meet the needs for therapeutic programs; has connections to our community; and is utilized by Phys Ed. Classes.

**Basic Needs:** The school building should support environmental conditions in which air lighting, temperature control, and acoustics are of the very best quality, and natural and green products and technologies are fully incorporated.

**SECURITY AND VISUAL ACCESS REQUIREMENTS**

Attleboro High School needs to be upgraded with the latest security devices including improved electronic card access, a reliable walkie-talkie infrastructure, and enhanced internal camera monitors. All schools in Attleboro have developed emergency response plans with building-based Critical Incident Teams. While these efforts have improved the safety and security of our schools, AHS was constructed in an era where modern safety, traffic, or security procedures were not able to be considered. It is expected that the new version of Attleboro High School will have clearly-defined traffic patterns, entry/egress systems, lines of sight, cameras, and other features as recommended by state and local agencies. District personnel, architectural designers, and emergency experts will work together to ensure that all necessary safety and security features are included in the school renovation/construction.

**COMMUNITY ACCESS**

The Attleboro Public Schools seek to foster a very positive partnership with the City of Attleboro and its residents. As a part of the *Envisioning 2020* Strategic Plan, many district schools are and will continue to be available for community use. Some of the current uses of the schools are: adult education programs; community recreational sports leagues; community and neighborhood meetings; and community art performances.

Any renovation plans at Attleboro High School should include provisions for community use. In addition to being afforded access to the facilities, community members are encouraged to be involved in and volunteer at the schools as content experts, tutors, mentors, and guides. Additionally, the craft-related CTE programs in Culinary, Cosmetology, Graphic Design, and Automotive should be placed so that consumers in the community may access them so that students may experience the customer service aspects of their fields. The Performing and Visual Arts should be afforded the opportunity to have the community access Art gallery and performance spaces in a secure environment. The District will continue to promote learning that connects students with the community through internships and service learning projects to fulfill its vision that the Attleboro Public Schools be the center of a community united around education, where all stakeholders value and participate in our collective success.
**ADDENDUM**

**CAREER & TECHNICAL EDUCATION OFFERINGS**

**Technical Exploratory (A and B)**
This course provides an opportunity for all freshman students to explore the various Career and Technical Programs. Students will spend approximately eight days in CTE programs being introduced to the three-year program of study. Students will explore the programs within two clusters. The exploratory experience allows students to participate in hands-on activities representative of each technical area within the clusters. In addition, students will investigate post-secondary and career opportunities in each career area. The activities are designed to serve a variety of interests. Completion of Technical Exploratory is not a prerequisite for acceptance into a Career and Technical program of study, although many participants do decide to enroll as a result of their experience.

The CTE clusters are:
- **Cluster 1:** Culinary Arts, Early Education and Care, Plumbing, Medical Assisting, Art, Criminal Justice, Graphic Communication, and Guidance
- **Cluster 2:** Welding & Joining Technology, Carpentry, Electrical Technology, Computer Information Systems, Automotive Technology, Engineering, 3D Computer Animation, and Guidance
- **Cluster 3:** Design and Visual Communications, Culinary Arts, Automotive Technology, Carpentry, Medical Assisting, Library Resources, Music, and Guidance

**CTE PROGRAMS**

**Automotive Technology I**
Students learn the basics of safety, tool and fastener identification and use; use of laboratory equipment such as lifts, jacks, tire changing and balancing equipment. Also covered is basic service work such as oil change, lubrication, and under-hood checks. In addition, the students are given instruction in diagnosis and repair of braking problems, and use of related shop equipment. Students of Automotive Technology apply communication and entrepreneurial skills through direct interaction with service customers.

**Automotive Technology II**
In their second year, students who have successfully completed level I, will continue to receive instruction in brakes and suspension and steering. They will receive instruction in automotive electricity and engine performance. In addition, they will occasionally be required to perform some assignments involving basic service work to maintain their familiarity with theses simpler operations. OSHA certification will also be attained along with the completion of reflection writings on all projects.

**Automotive Technology III**
Students, who have successfully completed Level II, will continue to receive instruction in automotive electricity and engine performance: identification and function of parts and systems, part removal and replacement, diagnosis and repair of electrical problems, and use of related laboratory equipment. All students will complete their Portfolio and presentation requirements in order to receive their CTE certificate.

**Carpentry I**
In Level I, students will learn the safe use of hand tools and power tools used in residential construction. Elements of house framing construction techniques are covered as well as siding,
roofing and Insulation applications. There is an emphasis on technical terms within the industry protocol. Students will also learn how to lay-out and cut a variety of woodworking joints and how to efficiently assemble a woodworking project. Writings will include project reflections and project design plans.

**Carpentry II**

For students who have successfully completed Level I, Level II is a continuation of residential construction techniques, but in greater detail. Sequential order of construction, job estimating and inventory control will be covered. Interior house systems are covered in conjunction with insulation, wallboard, interior trim, doors, windows and house module construction. Students will gain proficiency with hand tools and woodworking machinery while building various projects. OSHA certification will also be attained along with the completion of reflection writings on all projects.

**Carpentry III**

For students who have successfully completed Level II, Level III of Carpentry is the Portfolio year. Options in construction-related fields and further education related to carpentry will be discussed, as well as procedures for licensure. Techniques learned in previous years will be used in conjunction with live work on school system projects. All students will complete their Portfolio and presentation requirements in order to receive their CTE certificate in Carpentry.

**Computer Information Systems I**

This course introduces students to a variety of concepts: Computers and Digital Basics, Computer hardware, Computer software, Operating systems, Local Area Networks and the Internet, Web and E-Mail, Digital Media, and Computer Programming. History of the Computer Industry, Careers, and Ethics Issues are areas of research. Emphasis will be on hands-on activities in the lab and over the Internet.

**Computer Information Systems II**

Computer Repair – Software: For students who have successfully completed Level I, this course component will build on students' technical background that was acquired in CIS level I. Topics covered are principles of operating systems, applications, and basic networking, industry and safety standards. Emphasis will be on hands-on activities for developing problem solving and troubleshooting skills.

Computer Repair – Hardware: The course component will add a computer repair/troubleshooting foundation. Topics include: computer hardware and diagnostic testing, customer service skills and practice of ethical and legal behaviors. Students develop the ability to configure and troubleshoot basic PCs. Students will learn to use hardware diagnostic tools like multi-meters, power supply testers, rescue disks and BIOS Post cards, and other equipment commonly used in the computer repair trade. Emphasis will be on hands-on activities for developing ability to configure, build and troubleshoot basic PC's. This course is designed to help student pass the CompTIA Information Technology Fundamentals and CompTIA A+ Certification exam and compete in SkillsUSA Computer Maintenance or Technical Computer Applications competition.

**Computer Information Systems III**

For students who have successfully completed Level II, the main focus of the senior year is networking fundamentals. Topics include: network cabling, component installation, configuring wired and wireless switches and routers, performing network maintenance, monitoring network performance, network troubleshooting, securing networks, project management and technical writing skills. The program is design to prepare students for entry level computer network technician, network support specialist or pursue studies in specific networking fields. Students will receive theoretical instruction while applying the skills to real world application by working with the school’s technology staff on
troubleshooting calls and service of equipment on the school’s network. Student will also work on a senior project of their choice. It will be related to any topics covered in the last 3 years. Student will work independently and learn project management skills while completing their chosen project.

**Criminal Justice I**
Students will be introduced to the basics of the Criminal Justice System. Career pathways in Law, Public Safety Security and Corrections will be introduced along with Constitutional Law and the Bill of Rights. General aspects of Criminal Justice and the system and process of American Justice will be introduced. This will also include an introduction to criminal investigation and evidence. The administration of Justice Curriculum along with other supplemental materials will be utilized for the 3 year program as well as guest speakers.

**Criminal Justice II**
Having successfully completing Criminal Justice I, students will study in more depth the Court System, both state and federal. Court room demeanor and testimony and trial process will be taught as well as Civil law and tort liability. Students will gain a general understanding of professionalism and ethics. Students will gain a general understanding of the type of crimes, traffic laws and motor vehicle stops as well as defensive tactics. Crime scene investigation and evidence collection will be discussed in more depth by actively participating in mock crime scene and analysis activities which will include fingerprinting and other forensics activities. Students will also learn about search and rescue.

**Criminal Justice III**
Having successfully completing Criminal Justice II, students will continue in depth study and instruction that will include application in the areas of Criminal Justice and all the Legal and Protective Services. Students will learn tactical communication skills and report writing skills. They will learn employment skills for Criminal Justice careers as well as understand and be prepared to take a civil service test. They will participate in ride-alongs with the police to gain a better understanding of field operation and patrol. Students will also become First Aid/CPR/AED certified.

**Culinary Arts I**
Students in Level I will be introduced to baking and food preparation skill development. Emphasis is on health, safety and sanitation regulations and practices. Students will apply the fundamentals of food service with the proper use of tools, equipment, terminology, measurement, ingredients, and recipe analysis. Students will describe the various cooking and mixing methods as they apply to various foods and baked products. In addition, students will research the hospitality career cluster and related culinary arts careers. Writing assignments will include project reflections for the student’s portfolio.

**Culinary Arts II**
For students who have successfully completed Level I, Level II students will develop technical skills in the preparation of soups, sauces, salads, and sandwiches in a live food service setting. In addition, Level II students will prepare various types of meat, poultry, seafood, vegetables and grains. Students will experience the various styles of table and customer services. Operating the “Apprentice Café” and performing catering services, students will develop and employ foodservice math skills as well as customer service skills. Employability and communication skills will be enhanced through career cluster and pathway research. Students will be required to complete the OSHA Certification Program. OSHA certification will also be attained along with the completion of reflection writings on all projects.

**Culinary Arts III**
For students who have successfully completed Level II, Level III students will be exposed to
intermediate and advance bakery instruction with a concentration in the understanding and production of various French pastries, tarts, tortes, and pies. Students will also be instructed in basic cake decorating and individually plated desserts. Level III students will apply accounting and managerial learning of the food service industry while operating the department’s restaurant and storeroom. Culinary III students will complete their portfolios for presentation before a panel of administrators and food service professionals in order to receive their CTE certificate. Students will also prepare for the National Restaurant Association's ServSafe Certification Exam. All students will complete their Portfolio and presentation requirements in order to receive their CTE certificate in Culinary.

Design & Visual Communications I
Level I students explore the basic concepts and vocabulary of design and visual communication. Students are taught the proper use of equipment associated with the process through the Macintosh computer lab, including the use of the computer and associated peripherals such as cameras, printers and scanners. The course introduces students to the principals of graphic design through a series of exercises that allow students to explore the software tools and integrate these tools with concepts of design, including clarity, originality, relevance to the subject matter and visual appeal. Related mathematics and communication skills are imbedded in design instruction. Level I students are introduced to design concepts through exploration of Adobe Photoshop and a series of design concept exercises which establish foundations in concepts such as design unity, color theory, use of space, emphasis and visual themes, consistency and repetition and hierarchies of dominance. Written assignments will include project reflections for the student’s portfolio.

Design Visual Communications level II
For students who have successfully completed Level I, DVC II students build upon their first year experience by expanding their skills in software and design concept areas. Photoshop is reviewed and students move from it to developing vector graphic designs in Adobe Illustrator. Concepts of story and advertising illustration are explored through various projects and students develop a technical knowledge of vector graphic production through a scaffolded series of lessons building skills in Illustrator. Level II students move into Adobe InDesign in the year’s second half developing skills in integrating imagery constructed in Photoshop and Illustrator and importing into InDesign for creation of more complex multipage documents. InDesign becomes the platform for combining text and imagery and preparing it for print in real world projects for clients and organizations within the school. Exercises combine increasing technical skills with developing visual design skills through integrated projects that target specific visual design concepts. Students are introduced to basic photographic concepts such as composition and exposure in a series of workshops. OSHA safety certification will also be attained along with completion of written reflections for the portfolio.

Design and Visual Communication III
For students who have successfully completed Level II, DVC III students use the final year to expand their knowledge of software and design concepts by undertaking a series of real world design projects utilizing Photoshop, Illustrator and InDesign. Projects become more focused on actual work projects for clients in the school and local community. Communication skills such as working with clients and of giving and receiving critiques of work are developed and enhanced. The year starts with a one month focus on photographic concepts and skills stepping students through concepts of photographic composition and workshops ranging from exposure control to portrait and product lighting. Students develop a smaller portfolio of photographic works and write reflections based upon their experiences in these workshops. The year concludes with exploration of graphic areas such as web design, animation design and basic video shooting, storyboarding and editing. All students are required to complete a senior portfolio with a PowerPoint public presentation that highlights their best works from their portfolio and summarizes their three-year experience.
Early Education and Care I
During Level I, students will be introduced to the study of child development. Students will study the physical, intellectual, social, and emotional development of young children from birth to age 9. Through observations, the students will develop an understanding of the skills needed to educate and care for young children. Level I students will observe and participate in the laboratory childcare center and in the on-site infant/toddler childcare program while working on the creation of a portfolio.

Early Education and Care II
During the second year, students who have successfully completed Level I, will continue their study of child development, focusing on how children learn, and how to provide developmentally appropriate experiences for them. Students will understand the teacher’s role in maintaining a healthy, safe, and stimulating environment, while guiding children’s behavior as demonstrated by the lesson plans they will prepare and implement which will become part of their portfolio.

Early Education and Care III
During the third year, students who have successfully completed Level II, will study all aspects of managing/owning and operating a childcare center. They will develop an understanding of employability skills, such as completing job applications, developing resumes, and strong work ethics. They will develop and implement curriculum for the laboratory childcare center and in the on-site infant/toddler childcare programs, as well as participate in internships/coops at various sites in the community. Students will acquire the American Red Cross First Aid, CPR/AED certification for infant/child, as well as completing and presenting their portfolio.

Electrical Technology I
Level one begins with covering safety, electrical symbols and print reading. Students are taught techniques for mounting boxes; drilling holes in framing, stripping cables and conductors, making splices, and wiring electrical devices. The focus for all Level I students is to practice the basic skills that are necessary to work in the electrical industry.

Electrical Technology II
Level II students, who have successfully completed Level I, are required to complete an OSHA 10 safety training certification. Students are taught electrical theory, including Ohms Law, solving series/parallel circuits, voltage drop on conductors and how to figure the cost of running electrical appliances. Students will also learn techniques for bending metallic and nonmetallic raceways. Installations of electrical services, including circuit breaker panels are covered and “old work” installations of electrical wiring in existing homes.

Electrical Technology III
Level III begins with students, who have successfully completed Level II refreshing their knowledge of electrical safety. Next students are taught how to read ladder diagrams and wire industrial control devices. Students will work with relays, contactors and magnetic motor starters. They will also be introduced to electrical motors, DC generators, and power & control transformers. During senior year there is an increased focus on employability skills and what it takes to become a successful entrepreneur. All students must complete their Portfolio and presentation requirements in order to receive their CTE certificate in Electrical Technology.

Engineering I
This course is an opportunity to introduce engineering as creative problem-solving and to learn the fundamentals of engineering. The major focus is to expose students to the engineering design process, research and analysis, teamwork, communication methods, global and human
impacts, engineering standards, and drawing and documenting. Students will use 3D solid modeling design software to help them design solutions to solve proposed problems.

**Engineering II**
In Level II of Engineering and Design students who have successfully completed Level I, will further develop design, innovation, and technical problem solving skills. Students will employ engineering and scientific concepts in the solution of engineering design problems in various engineering fields such as Structural, Mechanical, Electrical, and Pneumatic systems. They will apply their knowledge of research and design to create solutions to various challenges, document their work in engineering notebooks and technical drawings, and communicate their solutions to peers and members of the school community. In this course students will experience engineering as a technical and creative career where you work individually and with others to solve problems and design things that are beneficial.

**Engineering III**
In Level III of Engineering and Design students who have successfully completed Level II, will design a solution to various technical problems throughout the course. This is an engineering research course in which students will work individually and in teams to research, design, test, and construct a solution to various engineering problems. The product development lifecycle and a design process will be used to guide and help the individual/team to reach a solution to each problem. This course allows students to apply all the skills and knowledge learned in previous engineering courses. The use of 2D and 3D design software will help students design solutions to their problems. This course also engages students in time management and teamwork skills, a valuable asset to students in the future. At the end of the course, each student will present a variety of their projects and solutions (from each year of engineering) to a panel of school administrators and industry reviewers, which is part of their senior career portfolio.

**Graphic Communication I**
This introductory course provides an opportunity for the students to experience the fundamentals of graphic communications. The sophomore curriculum will follow the MA framework and Print ED standards in the areas of orientation to Graphic Communications. Graphic design offset press, and finishing competencies will be introduced in this level. The students also learn the technical terms and the applied math related to each content area. Career portfolios will be introduced in this level and students will build the components into their portfolios in the format of a career plan.

**Graphic Communication II**
The level II graphic communications students, who have successfully completed Level I, will have the opportunity to build upon skills learned in level I. They will have the opportunity to learn digital file prep and digital file output to produce projects in Illustrator and Photoshop. They will learn digital positioning software and how to impose a document on the computer through to the plating process. They also learn to operate an offset press to the standards of the industry. Digital production printing will be introduced at this level. The students will also continue to develop their career portfolios. Guidance will be given for post-secondary education.

**Graphic Communication III**
Level III students who have successfully completed Level II spend a substantial amount of time in the offset press area of the program. Students will learn to operate two different types of offset presses. Students will produce a four-color process class project. In level 3, the students work on live projects which will prepare students for the world of work. Students will have the opportunity to meet with clients in order to design and pre-flight a project under the guidelines of the customer. Seniors will complete their career portfolio which is a CTE requirement. Students
are eligible for Cooperative Education placement at this level if all course requirements are completed.

**Medical Assisting I**
This course offers the first phase in training for medial assisting. In this course, the student will identify and demonstrate the health and safety practices, regulations and the control of microorganism in the medical environment. The student will sanitize, disinfect and sterilize medical instruments and demonstrate sterile technique used in the physician’s office during minor office surgery. Each level of Medical Careers will include senior portfolio development.

**Medical Assisting II**
In this course, students who have successfully completed Level I, will identify and demonstrate the preparation and assisting procedures for minor office surgery. The student will identify and demonstrate the use of medical terminology and its construct. The student will calculate the conversion of household measurement to basic metric measures, demonstrate procedures of administering a cardiac electrocardiogram conduct an initial physical assessment and become certified in adult CPR/AED/First Aid. The student will identify emergency and triage protocols.

**Medical Assisting III**
This course experience provides students who have successfully completed Level II, with basic laboratory procedures that are performed in a medical office and in various medical settings. Level three gives the student the opportunity to demonstrate a wide variety of office skills a necessary foundation for most any business application. The Medical Careers students will have a valuable externship (field experience) to add to their graduation portfolio.

**Plumbing Technology I**
Students will be introduced to the basics of plumbing including safe workplace practices, plumbing tools, materials, equipment, and procedures. Research includes career opportunities in the plumbing field. Laboratory experiences will include basic measurement and various pipe fittings and assembly. Instruction and practice aligns with the National Plumbing Code.

**Plumbing Technology II**
Having successfully completed Plumbing I, students will study the drainage system, waste disposal, water distribution systems and be introduced to blueprint reading. Students will become familiar with the plumbing code. By the end of Plumbing Technology II students will understand the history of gas and gas fitting and be familiar with terms such as specific gravity, BTU, and combustion.

**Plumbing Technology III**
Having successfully completed Plumbing II, students will continue an in-depth study of drains, vents, water supply, fixture installation and the gas code. Students will pipe in a gas main using steel pipe, malleable fittings and the latest in threading technology. Students completing Plumbing Level I, II, and III will receive both practical work experience clock hours and educational plumbing and gas fitting theory clock hours towards their Journeyman’s License.

**Welding and Joining Technology I**
Metal Fabrication & Joining Technology introduces students to a curriculum that involves working to obtain proficiency in various metal fabrication and welding processes. Students learn through project-based experiences. Technical instruction in the classroom covers concepts which apply mathematics, blueprint reading, and various welding symbols. Practical instruction covers machining processes in metal cutting, forming, bending, and assembling and fabrication of a variety of elements. Instruction in oxy-acetylene welding and cutting, M.I.G. and ARC welding processes are introduced at this level as outlined in the course frameworks, utilizing the American Welding Society’s curriculum guide.
**Welding and Joining Technology II**
Students, who have successfully completed Level I, will continue their progressive development of skills and knowledge of machine processes. The required practical experiences are given value by aligning them to the CVTE framework, assessing skills, and documenting the students’ progress and achievement.

**Welding and Joining Technology III**
Students, who have successfully completed Level II, will complete a portfolio that is designed to highlight both written and photographed accomplishments, activities, and projects. Students will complete the competencies of the CVTE framework using the American Welding Society’s curriculum as an approved sequence guide according to the Massachusetts DESE. All students must complete their Portfolio and presentation requirements in order to receive their CTE certificate in Welding & Joining Technology.

**CTE Elective Offerings**

**Technical Drawing**
Technical Drawing teaches the fundamental building blocks necessary for all design/drafting professions. Students are taught how to communicate in a world that uses drawing as language. Students will create mechanical and architectural drawings that are drafted by hand with paper, pencil, and drafting tools and then will progress to creating plans using 2-D computer-aided drafting (CAD) software.

**Basic Woodworking**
Students will be introduced to the basics of carpentry including safe tool and equipment use, basic construction and cabinet making techniques. Through a series of woodworking projects, academic learning will come alive for students as they apply basic mathematics and geometry. In addition, students will be exposed to the science of wood and the physics of construction, all the while developing fine wood crafting skills.

**Web Page Design**
This course introduces students to a variety of web development concepts: Introduction to HTML, CSS, Web graphics, Web servers and how to publish and maintain a web site. Emphasis will be on hands-on activities in the lab and over the Internet. The curriculum is aligned with Massachusetts VTE Curriculum Frameworks in Information Support Services and Networking and will include the following:

- Teach the fundamentals of developing Web pages using a comprehensive Web development cycle
- Construct web pages and sites that integrate HTML and CSS
- Develop, test and publish HTML web page documents
- Plan and design web site projects
- Diagram web site structures
- Promote curiosity and independent exploration of World Wide Web resources
- Organize and develop a local and remote web server
- Upload/publish a web site to a free host site location

**Introduction to Food Service Professions**
Students will apply academic learning in the study of basic Culinary Arts. Lab experiences provide opportunities for hands-on food preparation. Basic math skills are employed in measurement, recipe conversion, and food costing activities. In addition, students will learn basic dining room skills.

**Basic Home Maintenance**
Students will obtain the knowledge and necessary skills required to repair a toilet, change a shower head,
fix a faucet, even repair a leaky pipe. Students will work on actual flushing toilets, real tub/shower valves, and faucets. Although actual Plumbing work must be performed by a licensed Plumber in Massachusetts, there are many plumbing maintenance jobs that can be performed by non-plumbers and this class will focus on those types of repairs.

**Careers in Public Safety**
This introductory class will provide students a basic understanding of the legal and protective services careers with emphasis on careers within law enforcement, corrections, courts, security, and firefighters/EMT.