

East Hartford Public Schools
Academic Program for
Career & Technical Education (CTE)
Grades 6-12



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Table of Contents

Preface & Overview	3
CTE Facts	5
Middle School Program Scope of Services	6
High School Program Scope of Services	7
College Career Pathways Program	10
Resources for Parents & Students	12



East Hartford Public Schools

Schools that are the Pride of our Community



What is Career and Technical Education?

PREFACE

Career and Technical Education (CTE) prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees.

CTE is at the forefront of preparing students to be “college- and career-ready.” CTE equips students with

- Core academic skills and the ability to apply those skills to concrete situations in order to function in the workplace and in routine daily activities; and
- Employability skills (such as critical thinking and responsibility) that are essential in any career area job-specific, technical skills related to a specific career pathway.

Within CTE, occupations and career specialties are grouped into Career Clusters[®]. Each of the 16 clusters is based on a set of common knowledge and skills that prepare learners for a full range of opportunities. Further specialization is achieved through comprehensive Programs of Study, which align academic and technical content in a coordinated, non-duplicative sequence of secondary and postsecondary courses, and lead to an industry-recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree.

CTE Increases Student Achievement:

- A ratio of one CTE class for every two academic classes minimizes the risk of students dropping out of high school (Plank et al., *Dropping Out of High School and the Place of Career and Technical Education*, 2005).
- Students at schools with highly integrated rigorous academic and CTE programs have significantly higher achievement in reading, mathematics and science than do students at schools with less integrated programs (Southern Regional Education Board, *Career/Technical Studies to Broader High School Reform*, 2004).
- CTE students are significantly more likely than their non-CTE counterparts to report that they developed problem-solving, project completion, research, math, college application, work-related, communication, time management, and critical thinking skills during high school (Lekes et al., *Career and Technical Education Pathway Programs, Academic Performance, and the Transition to College and Career*, 2007).

OVERVIEW

What does it mean to be Career-Ready?

A “**Career-Ready**” person effectively navigates pathways that connect education and employment to achieve a fulfilling, financially-secure and successful career. A career is more than just a job. Career readiness has no defined endpoint. To be career-ready in our ever changing global economy requires adaptability and a commitment to lifelong learning along with mastery of key knowledge, skills and dispositions that vary from one career to another and change over time as a person progresses along a developmental continuum.

Knowledge, skills and dispositions are inter-dependent and mutually reinforcing.

These include: Academic and Technical Knowledge and Skills

A career-ready person is proficient in the core academic subjects, as well as in technical topics. This foundational knowledge base includes competence in a broad range of academic subjects grounded in rigorous internationally benchmarked state standards—such as the Common Core State Standards for English language arts and mathematics. It also includes a level of technical-skill proficiency aligned to a chosen career field and pathway, and the ability to apply both academic and technical learning in the context of a career. Many careers also require deeper learning and mastery in specific academic or technical subjects.

Employability Knowledge, Skills and Dispositions

A career-ready person has a good understanding of their interests, talents and weaknesses and a solid grasp of the skills and dispositions necessary for engaging in today's fast-paced, global economy.

These include, but are not limited to:

- Goal setting and planning;
- Managing transitions from school to work and back again, and from one occupation along a career pathway to another;
- Clear and effective communication skills;
- Critical thinking and problem solving;
- Working productively in teams and independently;
- Effective use of technology; and
- Ethical decision-making and social responsibility.

These skills and dispositions related to academic and employability knowledge are acquired in a range of secondary, postsecondary and workplace settings and help to address an increasing reality--Today, most career pathways require some form of postsecondary education, whether it's an entry-level job, a management position for a mid-career professional or perhaps even a shift from practicing a profession to teaching others. A particular job might require a certificate, a two-year degree, a four-year degree, a doctorate or even a handful of courses to hone in on a particular piece of knowledge or a skill. Indeed, the "college and career" tagline that has become part of the education reform rhetoric that encompasses all of these postsecondary options. Career readiness also incorporates engaging workplace experiences that allow a person to apply academic and technical learning to real-world projects and problems alongside professionals. This starts with career awareness and exploration and includes job shadowing, internships, apprenticeships and service learning.

CTE Facts

CTE fosters postsecondary completion and prepares students and adults for in-demand careers:

- 4 out of 5 secondary CTE graduates who pursued postsecondary education after high school had earned a credential or were still enrolled two years later.
- A person with a CTE-related associate degree or credential will earn on average between \$4,000 and \$19,000 more a year than a person with a humanities associate degree.
- 27 percent of people with less than an associate degree, including licenses and certificates earn more than the average bachelor degree recipient.
- CTE serves 94 percent of all high school students, including male and female students, students from many races and ethnicities, and students from higher and lower income backgrounds. However, at the start of the 21st century, male students; students from smaller, lower income or rural schools; students who have disabilities; and who enter school with lower academic achievement were more likely to participate in secondary CTE at higher levels.
- In the 2010-2011 school year, according to the Office of Vocational and Adult Education, there were 7,494,042 secondary CTE participants, or students who took at least 1 credit of CTE, and 3,020,163 CTE concentrators who took multiple CTE credits in one career pathway.
- In 2009, the average number of credits earned in CTE by high school graduates was 3.6 credits. Over time, the percentage of students taking a few credits of CTE and students spreading their CTE credits across multiple career fields has increased, while the percentage taking a higher concentration of credits in one field has declined. This is due in large part to increased academic course taking on the part of all students, pointing to a convergence in academics and CTE.
- In 2002, 88% of public high schools offered at least one CTE program. In addition, many high schools are served by area career centers--1,200 in 41 states, as of 2002.

CTE Meets Individual and Community Economic Needs:

- According to the Bureau of Labor Statistics, of the 20 fastest growing occupations, 14 require an associate degree or less. Furthermore, of the 20 occupations with the largest numbers of new jobs projected for 2020, 18 require on-the-job training, an associate degree or a postsecondary credential (Bureau of Labor Statistics, Occupational Outlook Handbook, 2012-13 Edition).
- Sixty-seven percent of respondents in a 2011 manufacturing skills gap study indicated that they are experiencing a shortage of qualified workers overall—with 12% reporting severe shortages and 55% indicating moderate shortages. CTE plays a vital role in helping American business close this gap by building a competitive workforce for the 21st century (Deloitte and The Manufacturing Institute, Boiling Point? The Skills Gap in U.S. Manufacturing, 2011).
- A person with a CTE-related associate degree or credential will earn an average of at least \$4,000 more a year than a person with a humanities associate degree—and those with credentials in high-demand fields such as healthcare can average almost \$20,000 more a year.



What does Technology Education at the Middle School Provide?

- **Integrated Learning** - Technology Education supports many subject areas including science, mathematics, English language arts, and social studies. It introduces an alternative form of self-expression that challenges each individual to create and produce interdisciplinary projects.
- **Hands-on Participation** - Technology education promotes enthusiasm for further exploration through active participation on computers and use of industry-related tools. This approach encourages better retention and understanding of technological applications.
- **Basic Skills** - Technology Education provides for the development and application of three basic skills: creativity, problem solving, and critical thinking. Appropriate activities help students build these life-long skills. Students are encouraged to explore and create at their own pace, to work together in a cooperative environment, and to assess their work in a comfortable atmosphere.

Each of the three Technology Education teachers has curriculum that is suited to the technology in their classroom, their interests and their abilities. Meet our three Technology Teachers:

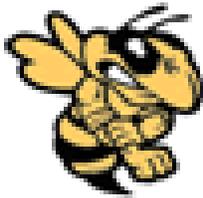
Mr. Gosselin—Teaches 7th and 8th Grade Tech Ed. in Room #7. Mr. Gosselin focuses on computer literacy as he teaches students how to use PowerPoint and other Microsoft Office programs. He will also be working with Asnuntuck to add advanced manufacturing activities for grade 7 and 8.

Ms. Rondinone— Teaches 7th and 8th Grade Tech Ed. in Room #3. Her favorite areas of Tech Ed. are engineering and communications. In Ms. Rondinone’s classes, students will be working with Asnuntuck Community College to learn about advanced manufacturing, the engineering design process, and other STEM related concepts and skills.

Mr. Stegner—Teaches 6th Grade Tech Ed. in Room #4. His favorite areas of Tech Ed. are engineering and construction. In Mr. Stegner’s classes, students do a variety of activities including Residential Construction, Manufacturing, Mag-Lev’s, Graphic Design and Bridge Construction using the Young Manufacturers Program written by Connecticut Center for Advanced Technology (CCAT) curriculum.

HELPING YOUR CHILD OUTSIDE OF SCHOOL:

- Explore a variety of career fields, talk about your job, take your child to work
- Encourage your child to pursue a passion, hobby or unique interest
- Encourage good work place skills in school such as:
 - Being on time
 - Being prepared
 - Maintaining good attendance
 - Being respectful to supervisors (teachers and administrators)
 - Practicing good problem solving
 - Begin a good team player (in a learning group and on team sports)
 - Explore a website that is devoted to learning about different careers:
 - www.engineeryourlife.org
 - www.driveofyourlife.org
 - www.mappingyourfuture.org
 - <http://knowitall.sctev.org/careerisle>



East Hartford High School
SCOPE OF SERVICES



What does Career and Technical Education at the High School Provide?

THE BUSINESS EDUCATION PROGRAM

The **Business Education Program** has been designed to provide 21st century skills to those students planning to enter college or the job market directly after high school in a career in business and to provide students with life skills and for further study in business after high school. Courses in business education provide a background for numerous professional jobs, both within the business world and in other areas. Examples of business occupations include accountant, banker, financial planner, entrepreneur, administrative assistant.

Business Classes:

- Accounting 1 and 2 (CCP)
- Personal Finance 1 and 2
- Academy of Finance 1 and 2
- Computer Applications 1 and 2 (CCP)
- Excel

CCP: College Career Pathway class earning college credit.

The Academy of Finance, a unique program within the Business Education Program, is part of The National Academy Foundation (NAF). NAF is a leader in the movement to prepare young people for college and career success. For 30 years, NAF has refined a proven educational model which includes industry-focused curricula, work-based learning experiences, and business partner expertise from our five themes: Finance, Hospitality & Tourism, Information Technology, Engineering, and Health Sciences. Employees of more than 2,500 companies volunteer in classrooms, act as mentors, engage NAF students in paid internships and serve on local Advisory Boards.

The Academy of Finance connects high school students with the world of financial services and personal finance, offering a curriculum that covers banking and credit, financial planning, global finance, securities, insurance, accounting, and economics. Students have an opportunity to work in a paid internship as part of the AOF program (www.naf.org).

THE TECHNOLOGY EDUCATION PROGRAM

Technology Education teaches students to control and manage technology systems and apply various strategies related to technological problems. Learning activities focus on developing technological awareness; solving 'real world' technical, human, and environmental problems; the safe and efficient use of tools, materials and processes; and the history and impact of technological systems.

A working knowledge of computer skills, technology and communication skills are necessary in many occupations today. Technology education provides a strong background for a wide range of careers, such as Architect, Engineer, Automotive Technician, Graphic Designer, Machinist, Construction Manager and many others.

Technology Education Classes:

- Engineering Design 1 and 2
- Aerospace Engineering
- Robotics
- Woodworking 1 and 2
- Automotive Maintenance
- Computer Graphics 1 and 2
- Photography 1 and 2
- Intro to Computer Science

THE FAMILY & CONSUMER SCIENCE PROGRAM

Family and Consumer Science is a program that provides a foundation for students to understand themselves and the complex social and economic components of the society in which they live. Through Family and Consumer Science courses, students explore many career options in the human services field, as well as gain many lifelong skills in both health and nutrition.

Courses in Family and Consumer Science can lead to many career options to include occupations in food and hospitality as well as health and nutrition.

Family and consumer Science Classes:

- Intro to Food Preparation
- Advanced Food Preparation (CCP)
- Advanced Baking (CCP)
- Regional Foods

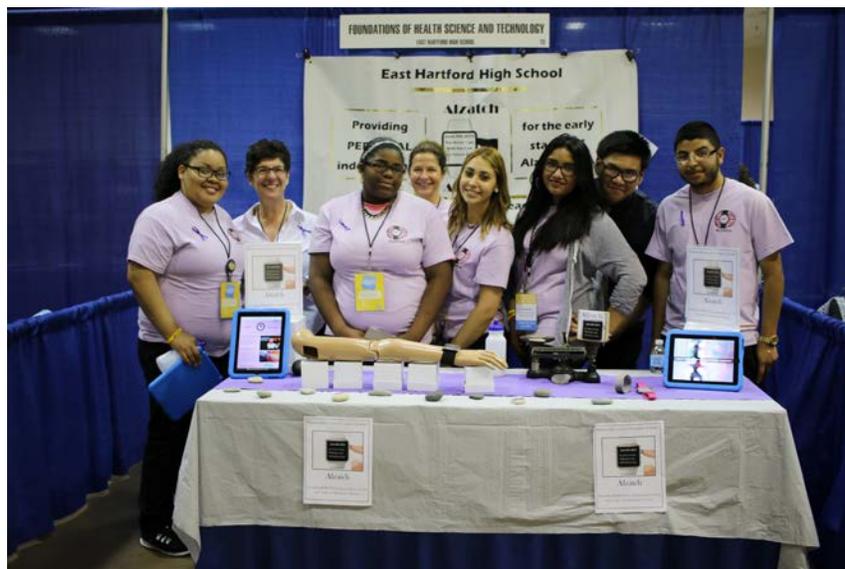
THE HEALTH OCCUPATIONS PROGRAM

The Health Occupations Program is designed to give students a current and an accurate picture of the career and educational opportunities available in the health field and to guide students in the proper high school preparation for post-secondary entry into the health field. Students have opportunities to work in the clinical setting to gain skills and knowledge required for a Certified Nursing Assistant (CNA). Medical ethics, health technology, workplace and communication skills are an integral part of the program.

Courses in the Health Occupations Program provide a background for numerous positions within the health and human services fields, as well as a starting point for post-secondary education in the health and medical fields. Examples include Certified Nursing Assistant, Registered Nurse, Medical Technician, Physician, Physician's Assistant, Physical Therapist and many more.

Health Occupations Courses:

Foundations in Health Science and Technology (CCP)
Patient Care – Certified Nurse's Assistant class
Public Health



STEM Expo Winners 2015
Foundations of Health Science and Technology



COLLEGE CAREER PATHWAYS: An Open Door to Your Future

The College Career Pathways program at East Hartford High School and Manchester Community College consists of up to three years of secondary and two years or more of post-secondary education leading to an associate degree or post-secondary certificate in a specific career field. The program is established when an articulation agreement is signed between a specific the high school and MCC.

The course pathway toward the degree or certificate, beginning in high school, is a coherent sequence and does not require repetition of the same learning outcomes. To be considered a complete curriculum, courses in high school will comprise math, communications, science, and a career subject (e.g. accounting, baking, criminal justice, etc.). Where learning outcomes can be established as being identical, college credit may be awarded for the course(s). Therefore, College Career Pathways is a combined secondary and post-secondary education program designed to prepare students for tomorrow's highly competitive careers. College Career Pathways programs provide a foundation of applied academics and the career skills needed for current and emerging careers. In addition, the program links business, industry, secondary and post-secondary schools through a consortium whose goal is to prepare students to eventually enter the workforce.

In some schools, students begin career exploration in elementary school and most have taken part in a career awareness activity by the time they reach high school. The College Career Pathways program begins for high school students in their second year. Students in the 10th grade gate-keeper course apply to the program by submitting a special application available through their guidance counselor; these courses are part of their school requirements and are taken at their high school.

Up to 17 college credits may be earned by the end of the senior year of high school. Students will have the option of matriculation into an associate degree program at MCC during their senior year of high school. Agreements with the CT university system may allow credits to transfer to these universities.

Students are the real winners! They gain academic and technical skills which prepare them for employment and continuing education. They develop the competence and confidence to cope with a rapidly changing society and workplace. Students and their parents benefit by saving time and money in college programs. Time saved with College Career Pathways credits allow students to concentrate on a lighter load of classes, to take more advanced classes that will enhance their employability, or to work part time while pursuing their degree.

High schools encourage students to graduate with clearer goals. Teachers and counselors witness higher morale, better attitudes, and improved student performance when students find satisfaction in and see the relevance of their high school classes to future plans.

Participating colleges receive prepared, focused students and spend less time and money on remedial courses.

Employers win by obtaining a better-educated worker. Skilled worker shortages will be alleviated as College Career Pathways becomes widely operational in high schools and colleges across the state. Technical education and training become more available and highly valued. Employers also win through the opportunity to provide input and influence curriculum in the schools.

Today's job market demands a highly skilled and highly trained workforce. Increasingly new jobs being created are technical in nature and require at least one or more years of post-secondary education. It is estimated that over 50 percent of all new jobs fall into this category.

In addition to being able to enter the job market more easily, participants in the College Career Pathways program are also provided the advantage of higher earnings. National studies support the fact that people entering the workforce with an associate degree earn over 50 percent more than people with only a high school degree. (Manchester Community College)



RESOURCES FOR PARENTS AND STUDENTS

EMPLOYMENT AND CAREER INFORMATION

<http://www1.ctdol.state.ct.us/lmi/index.asp> – Connecticut Labor Market Information

<http://www.bls.gov/ooh/> - Occupational Outlook Handbook

<http://www.onetonline.org/> - O*Net Online

TRAINING RESOURCES

<http://www.capitalworkforce.org/> - Capital Workforce Partners

<http://www1.ctdol.state.ct.us/etc/> - Connecticut Labor Market Education & Training Connection

<http://www1.ctdol.state.ct.us/jcc/> - Job and Career Connection

<http://www1.ctdol.state.ct.us/lmi/pubs/ConnecticutCareerPaths2013.pdf> - CT Career Paths Magazine

<http://ctmfgcareers.org/> - Connecticut Manufacturing Careers

<http://www.cbia.com/edf/CareerPathways.htm> - CBIA Education Foundation

<http://www.ct.edu/> - CT Community Colleges

ARTICLES

“Preparing America for Middle-Skill Work”

<http://www.communitycollegetimes.com/Pages/Workforce-Development/Preparing-America-for-middle-skill-work.aspx>

“Opportunities Abound in Middle-Skill Jobs”

http://www.careervision.org/about/Middle_Skill_Jobs.htm

“Mismatch in the Labor Market: The Supply of and Demand for “Middle-Skill” Workers in New England”

<http://www.nebhe.org/thejournal/mismatch-in-the-labor-market-the-supply-of-and-demand-for-middle-skilled-workers-in-new-england/>

“Middle Skill Workers in Hot Demand”

<http://jobs.aol.com/articles/2011/03/15/middle-skill-workers-in-hot-demand/>

“Highest Paying Associate’s Degrees by Median Wage”

<http://www.campusexplorer.com/college-advice-tips/63CBAA53/Highest-Paying-Jobs-With-Only-an-Associates-Degree/>

“What Jobs Can I Get With an Associate's Degree?”

<http://www.campusexplorer.com/college-advice-tips/4110C42A/What-Jobs-Can-I-Get-With-An-Associates-Degree/>

“The 40 Highest-Paying Jobs You Can Get Without a Bachelor's Degree”

<http://www.businessinsider.com/the-40-highest-paying-jobs-you-can-get-without-a-bachelors-degree-2012-8?op=1#ixzz2i0QlYeRm>

“Top 25 In-Demand Jobs and Fastest Growing Occupations”

<http://www.campusexplorer.com/college-advice-tips/76DB6BDB/Top-25-In-Demand-Jobs-and-Fastest-Growing-Occupations/>

“15 Jobs You Can Land without College”

<http://www.rd.com/slideshows/15-jobs-you-can-land-without-going-to-college/?v=print>

CERTIFICATE PROGRAM INFORMATION

<http://www.elearners.com/online-education-resources/degrees-and-programs/continuing-education-and-certificate-programs/>

<http://www.economicmodeling.com/2013/05/06/the-associates-degree-payoff-community-college-grads-can-get-high-paying-jobs-and-here-are-some-examples/>

CAREER & JOB INFORMATION

8 Great Careers You Can Launch in 2 Years or Less

<http://jobs.aol.com/articles/2011/05/25/eight-great-careers-you-can-launch-in-two-years-or-less/>

10 Highest Paying Blue Collar Jobs

<http://jobs.aol.com/articles/2009/10/23/blue-collar-jobs/>

Seven Jobs in Health Care That Require Moderate Training

<http://jobs.aol.com/articles/2009/09/20/seven-jobs-in-health-care-that-require-moderate-training/>

CAREER VIDEOS

Career One Stop Videos

<http://www.careeronestop.org/Videos/default.aspx>

Career Videos at CityTownInfo.com

<http://www.citytowninfo.com/career-videos>

Career Videos at Gadball.com

<http://www.gadball.com/articles/videos/>

Career Videos

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

STUDENT GUIDANCE

My Next Move – American Job Center Network

<http://www.mynextmove.org/>

Know How to Go

<http://knowhow2goct.org/>

College.gov

<http://college.gov>

MANCHESTER COMMUNITY COLLEGE

MCC Admissions Main Page

<http://www.manchestercc.edu/admissions/index.php>

MCC 2015-2016 On-line Catalog

<http://catalog.mcc.commnet.edu/>

MCC Catalogs and Schedule

<http://www.manchestercc.edu/students/resources/catalog.php>

MCC Financial Aid

<http://www.manchestercc.edu/students/financial/>

