



# CAREER/VOCATIONAL TECHNICAL EDUCATION SAFETY GUIDE

**Massachusetts Department of Elementary and Secondary Education**

Career/Vocational Technical Education Unit

**address** 350 Main Street, Malden, MA 02148

**telephone** 781-338-3910 **internet** [www.doe.mass.edu/cte/](http://www.doe.mass.edu/cte/)

**email** [careervoctech@doe.mass.edu](mailto:careervoctech@doe.mass.edu)

## TABLE OF CONTENTS

Introduction	2
Types of Career/Vocational Technical Education Programs	2
Technical Assistance	2
Partnerships	3
NIOSH Safety Checklist Program for Schools	4
Career/Vocational Technical Education Safety and Health Plan	5
Curriculum	5
Professional Standards for Educators	5
Professional Development	6
School Climate	6
Environmental Protection	6
Recommended Minimum Square Footage and Maximum Teacher-Student Ratios	6
Cooperative Education and other Work-Based Learning Activities	7
Unpaid Off-Campus Construction and Maintenance Projects	7
Certificate of Occupational Proficiency	7
Child Labor Laws	8
Monitoring	8
Reporting	8
Appendices	
Appendix A - Selected References	
Appendix B - Questions and Answers by Topic	
Appendix C: Applicable NIOSH Checklist for Programs	

## **INTRODUCTION**

This Guide has been prepared to assist school districts to ensure safety and health in career/vocational technical education programs. Sections of certain laws, regulations, and guidelines are referenced in this Guide. The official copies of laws, regulations, and guidelines are implemented by the Department of Elementary and Secondary Education and the Department does not represent this Guide as a replacement for official copies of laws, regulations, and guidelines. The Guide may not contain a reference to every law, regulation, or guideline pertaining to career/vocational technical education safety and health. Links to the laws, regulations, guidelines and other resources are provided herein due to the fact that links to the actual source is the most efficient and accurate way of providing up-to-date information.

In Massachusetts, the Career/Vocational Technical Education unit of the Massachusetts Department of Elementary and Secondary Education administers the Massachusetts law (M.G.L. c. 74) governing vocational technical education programs in public school districts. Such programs are known as Chapter 74-approved vocational technical education programs. The unit also administers the federal Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Public Law 109-270), commonly known as Perkins IV.

The Massachusetts Department of Elementary and Secondary Education has not recommended, endorsed, or approved any non-Department products or services referenced in this Guide unless such recommendation, endorsement, or approval is explicitly stated.

This Guide was last updated on August 1, 2008. The name of the Department of Education was changed to Massachusetts Department of Elementary and Secondary Education.

### **TYPES OF CAREER/VOCATIONAL TECHNICAL EDUCATION PROGRAMS**

Career/Vocational Technical Education Programs - The term career/vocational technical education programs is used to denote both Chapter 74-approved vocational technical education programs and non-Chapter 74 career and technical education programs.

Chapter 74-Approved Vocational Technical Education Programs - In Massachusetts, those programs that meet the definition of vocational technical education contained in Chapter 74 of the Massachusetts General Laws (M.G.L. c. 74), and are approved by the Department of Elementary and Secondary Education pursuant to Chapter 74 and the Vocational Technical Education Regulations 603 CMR 4.00.

Non-Chapter 74 Career and Technical Education - In Massachusetts, those programs that meet the definition of career and technical education contained in Perkins IV. Non-Chapter 74 career and technical education programs are also known simply as career and technical education programs.

### **TECHNICAL ASSISTANCE**

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit is committed to ensuring that high quality technical assistance is provided to each school district regarding safety and health in career/vocational technical education programs. Each school district with career/vocational technical education programs that are assisted with Carl D. Perkins Career and Technical Education Improvement Act P.L. 109-270 (Perkins IV) funds and/or has Chapter 74-approved vocational technical education programs has a staff person known as a liaison in the Career/Vocational Technical Education unit. School district staff should contact their liaison for assistance in locating technical assistance on safety and health in career/vocational technical education programs. The list of liaisons and contact information is located on the Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit website at [www.doe.mass.edu/cte/](http://www.doe.mass.edu/cte/) under "Contact CVTE Staff."

## **PARTNERSHIPS**

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit recognizes that partnerships with agencies and organizations committed to ensuring safety and health are necessary. The following list includes current partnerships. The Career/Vocational Technical Education unit is interested in developing additional partnerships concerning health and safety in career/vocational technical education programs.

### Massachusetts Department of Labor - Division of Occupational Safety

The Division of Occupational Safety (DOS) administers several workplace safety and health programs, all focused on the goal of having every worker return home safe and healthy each day. DOS conducts onsite safety inspections with the Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit of the facilities (shops) used for Chapter 74-approved vocational technical education programs. In addition, the Occupational Hygiene/Indoor Air Quality Program (OH/IAQ) at DOS conducts free inspections of shop health hazards including those in automotive collision repair and refinishing shops in schools. DOS also provides specialized trainings for teachers coordinated with the Career/Vocational Technical Education unit. During school year 2006-2007 DOS conducted respirator trainings across Massachusetts for vocational technical education teachers.

The link to DOS is <http://www.mass.gov/dos/>.

### Massachusetts Department of Public Health - Occupational Health Surveillance Program

The Massachusetts Department of Public Health - Occupational Health Surveillance Program (OHSP) administers the Massachusetts Teens at Work: Injury Surveillance and Prevention Project. The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit collaborates with OHSP to address safety and health concerns of young workers. OHSP's assists the Career/Vocational Technical Education unit in conducting follow-up of injuries in Chapter 74-approved vocational technical education programs.

The link to the Massachusetts Department of Public Health is <http://www.mass.gov/dph/>.

### Massachusetts Department of Workforce Development - Division of Apprentice Training

The Division of Apprentice Training (DAT) is responsible for promoting, developing and servicing registered apprenticeship programs in Massachusetts. Registered apprenticeship programs provide graduates of career/vocational technical education programs with the additional training and education necessary to succeed in today's workplaces. An important component of registered apprenticeship program curricula is occupational safety and health.

The link to the Massachusetts Department of Workforce Development - Division of Apprentice Training is <http://www.mass.gov/?pageID=dlwdhomepage&L=1&L0=Home&sid=Edwd>

### Massachusetts Division of Professional Licensure

The Division of Professional Licensure (DPL) is the agency within the Office of Consumer Affairs and Business Regulation with 29 boards of registration regulating more than 40 professions including many trades. DPL boards license individuals including graduates of career/vocational technical education programs for professions. The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit collaborates with DPL boards on education issues. An important component of licensure requirements is occupational safety and health.

The link to DPL is <http://www.mass.gov/dpl/>.

### Massachusetts Office of the Attorney General

The Massachusetts Office of the Attorney General enforces the provisions of the Massachusetts Child Labor Laws. These laws were written to protect young workers who suffer injuries at much

higher rates than adults and who need to balance work and education. The Office of the Attorney General works to educate employers about the laws that affect minors through a variety of outreach programs. These efforts are designed to help employers comply with the laws and to understand the complex issues and demands that teen workers face. The Office of the Attorney General provides technical assistance to the Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit concerning cooperative education and related programs.

The link to the Massachusetts Office of the Attorney General is <http://www.ago.state.ma.us/sp.cfm?pageid=1119>.

United States Department of Health and Human Services - Centers for Disease Control and Prevention - National Institute for Occupational Safety and Health

The Occupational Safety and Health Act of 1970 created both NIOSH and the Occupational Safety and Health Administration (OSHA). NIOSH is in the United States Department of Health and Human Services and is an agency established to help assure safe and healthful working conditions for working men and women by providing research, information, education, and training in the field of occupational safety and health. The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit recommends that the NIOSH Safety Checklist Program for Schools be used by school districts. Further information on this program is provided later in the Guide.

The link to the NIOSH homepage is <http://www.cdc.gov/niosh/homepage.html>.

United States Occupational Safety and Health Administration – The Occupational Safety and Health Administration (OSHA) is part of the United States Department of Labor. OSHA's mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA, Massachusetts Division of Occupational Safety (DOS), Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit (DOE), Massachusetts Association of Vocational Administrators (MAVA), Massachusetts Federation of Teachers (MFT) and the Massachusetts Teachers Association (MTA) formed an *Alliance* to provide DOE, MAVA, MFT and MTA members and others with information, guidance and access to training resources that will help them protect vocational technical education students' and educators' health and safety, particularly in reducing and preventing exposure to safety and health hazards in the workplace including schools. In developing this Alliance, OSHA and DOE, MAVA, MFT and MTA recognize that OSHA's Consultation Project partner (DOS) is an integral part of the OSHA national effort. The Massachusetts Department of Elementary and Secondary Education – Career/Vocational Technical Education unit is a signatory on the *Alliance*.

The Massachusetts Vocational Technical Education Regulations 603 CMR 4.00 specify that the regulations of the Occupational Safety and Health Administration (OSHA) governing work sites shall serve as the minimum standards for safety in Chapter 74-approved vocational technical education programs.

The link to the OSHA homepage is <http://www.osha.gov/>.

### **NIOSH SAFETY CHECKLIST PROGRAM FOR SCHOOLS**

The National Institute for Occupational Safety and Health (NIOSH) Safety Checklist Program for Schools provide information needed by schools to maintain safe classrooms, shops, and labs for staff and students in career/vocational technical education.

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit recommends that the NIOSH Safety Checklist Program for Schools be used for self-evaluation by school districts with career/vocational technical education programs.

Appendix C of this Career/Vocational Technical Education Safety Guide contains a list of the applicable NIOSH Safety Checklist for each career/vocational technical education program. The direct link to the checklists for specific career/vocational technical education programs is <http://www.cdc.gov/niosh/docs/2004-101/indexprog.html>.

The Career Vocational Technical Education unit uses the program specific NIOSH Safety Checklist when evaluating new programs for approval under Chapter 74. Additional information on the NIOSH Safety Checklist Program for Schools including the NIOSH Safety Checklist Program Manual is available at <http://www.cdc.gov/niosh/docs/2004-101/>.

To obtain the CD version of the NIOSH Safety Checklist Program for Schools (and Other Safety Databases), contact:

NIOSH/Publications Dissemination  
4676 Columbia Parkway  
Cincinnati, OH 45226-1998  
Phone: 1-800-35- NIOSH (1-800-356-4674)  
Fax: 513-533-8573  
E-mail: [Pubstaf@cdc.gov](mailto:Pubstaf@cdc.gov)

### **CAREER/VOCATIONAL TECHNICAL EDUCATION SAFETY AND HEALTH PLAN**

The Massachusetts Vocational Technical Education Regulations require that each Chapter 74-approved vocational technical education program have a comprehensive Career/Vocational Technical Education Safety and Health Plan that includes but is not limited to plans for safety training for all students and staff. Schools may opt to have one Career/Vocational Technical Education Safety and Health Plan with a section for each Chapter 74-approved vocational technical education program. It is important to recognize that each Chapter 74-approved vocational technical education program has safety and health issues that are program-specific.

The NIOSH Safety Checklist Program Manual includes in Chapter 2 information of how to establish an effective occupational safety and health and environmental safety program that will serve as a model for a comprehensive Career/Vocational Technical Education Safety and Health Plan.

### **CURRICULUM**

The Carl D. Perkins Career and Technical Education Improvement Act of 2006 P.L. 109-270 (Perkins IV) requires that career/vocational technical education programs assisted with Perkins funds provide students with the knowledge and skills associated with all aspects of the industry that the students are preparing to enter. One of the aspect of the industry is occupational safety and health, thus curricula for all programs assisted with Perkins IV funds should include occupational safety and health. The Massachusetts Vocational Technical Education Regulations 603 CMR 4.00 require that curricula for Chapter 74-approved vocational technical education programs be based on the applicable Vocational Technical Education Framework and the Massachusetts Curriculum Frameworks. Strand One of the each Vocational Technical Education Framework is Safety and Health. In addition, each Chapter 74-approved vocational technical education program must have a comprehensive Career/Vocational Technical Safety and Health Plan, which includes safety training for all students and staff in the Chapter 74-approved vocational technical education program.

### **PROFESSIONAL STANDARDS FOR EDUCATORS**

The Massachusetts Vocational Technical Education Regulations include professional standards for vocational technical teachers, administrators and cooperative education coordinators.

Educators in career/vocational technical, education are expected to understand and implement safety and health requirements in vocational technical education programs including cooperative education and other work-based learning activities.

### **PROFESSIONAL DEVELOPMENT**

The Massachusetts Vocational Technical Education Regulations require that each school district with Chapter 74-approved vocational technical education programs provide safety and health training for all students and staff in Chapter 74-approved vocational technical education programs.

The Massachusetts Vocational Technical Education Regulations require that for the renewal of a Professional Vocational Technical Teacher license, professional development points (PDPs) must be earned and include PDPs in occupational safety and health. The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit is committed to providing high quality, sustainable, intensive, focused professional development activities concerning safety and health in career/vocational technical education programs. Announcements regarding professional development activities are posted on the website of the Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit website at <http://www.doe.mass.edu/cte/>. The unit would like to hear from school districts regarding professional development needs concerning safety and health in career/vocational technical education.

Email the Career/Vocational Technical Education unit with needs and recommendations at [careervoctech@doe.mass.edu](mailto:careervoctech@doe.mass.edu).

### **SCHOOL CLIMATE**

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit recognizes that safety and health in career/vocational technical education programs is enhanced by a positive school climate that is free from discrimination, harassment and bullying based on race, color, sex, religion, national origin or sexual orientation, perceived sexual orientation, disability status and other factors. The climate in career/vocational technical education classrooms and shops must be such that students and staff act appropriately in order to ensure that accidents do not occur in the facilities that by its very nature have inherent dangers. A positive school climate may assist in protecting the environment by fostering respect for our natural resources.

### **ENVIRONMENTAL PROTECTION**

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit recognizes that career/vocational technical education have a responsibility to protect the environment by incorporating program (trade) specific curricula and practices that support clean energy technologies and encourage environmental sustainability while act the same time ensuring the safety and health of students and staff.

### **RECOMMENDED MINIMUM SQUARE FOOTAGE and MAXIMUM TEACHER - STUDENT RATION for SHOPS in CHAPTER 74-APPROVED VOCATIONAL TECHNICAL EDUCATION PROGRAMS**

The Chapter 74 Manual for Vocational Technical Education Programs available at <http://www.doe.mass.edu/cte/programs/> contains recommended minimum square footage and maximum teacher-student ratio for shops used for Chapter 74-approved vocational technical education programs. The recommendations are meant to assist schools in designing appropriate shops and determining appropriate teacher-student ratios in order to ensure quality instruction and safe and healthy learning environments.

## **COOPERATIVE EDUCATION and other WORK-BASED LEARNING ACTIVITIES**

Massachusetts general Law Chapter 74 Section 1 defines cooperative education: “Cooperative education: a program of vocational technical education for persons who, through a cooperative arrangement between the school and employers, receive instruction, including required academic courses and related vocational technical instruction, by the alternation of study in school with a job in any occupational field. Such instruction shall be planned and supervised by the school and the employer so that each contributes to the student’s education and employability. Work periods and school attendance may be on alternate half-days, full days, weeks or other coordinated periods of time.”

Cooperative education is a component of many Chapter 74-approved vocational technical education programs. The Massachusetts Vocational Technical Education Regulations 603 CMR 4.00 require that a safety and health orientation specific to the cooperative education site be provided for all employee-students. The Professional Standards for Cooperative Education Coordinators contained in the regulations stipulate that cooperative education coordinators assure that students have adequate training in safety and health issues pertaining to the vocational technical program and that safety guidelines are followed at all times. Cooperative education coordinators must ensure that cooperative education employers abide by the Child Labor Laws as they apply to cooperative education. Cooperative education coordinators are responsible for inspecting prospective cooperative education sites for safety and health prior to students commencing cooperative education at the site.

The Chapter 74 Manual for Vocational Technical Cooperative Education at <http://www.doe.mass.edu/cte/programs/> provides additional information with an emphasis on occupational safety and health regarding cooperative education with an emphasis on safety and health.

Chapter 74-approved vocational technical education programs may include other work-based learning activities in addition to cooperative education such as internships and job shadowing. Educators must ensure the safety and health of students and staff during all work-based learning activities.

Note that workers compensation insurance is required to be provided to cover all students on **cooperative education and other work-based learning activities**.

## **UNPAID OFF-CAMPUS CONSTRUCTION and MAINTENANCE PROJECTS**

The Massachusetts Vocational Technical Education Regulations allow Chapter 74-approved vocational technical education programs to provide students with knowledge and skills using off-campus construction and/or maintenance projects. Prior to participation, students shall receive appropriate safety and health training and shall have demonstrated that they have acquired sufficient safety and health knowledge and skills. Projects shall comply with the standards set forth in Massachusetts General Law Chapter 149 and the requirements of the Occupational Safety and Health Administration (OSHA) regarding workplace safety and health.

## **CERTIFICATE OF OCCUPATIONAL PROFICIENCY**

*The Education Reform Act established the Certificate of Occupational Proficiency. The statute - M.G.L.c.69 section 1D (iii) states: "The certificate of occupational proficiency shall be awarded to students who successfully complete a comprehensive education and training program in a particular trade or professional skill area and shall reflect a determination that the recipient has demonstrated mastery of a core of skills, competencies and knowledge comparable to that possessed by students of equivalent age entering the particular trade or profession from the most educationally advanced education systems in the world. No student may receive said certificate of occupational proficiency without also having acquired a competency determination. Nothing in this chapter shall prohibit a student from beginning a program of*

*vocational education before achieving a determination of competency. Such vocational education may begin at grade nine, ten or eleven. No provision of law shall prohibit concurrent pursuit of a competency determination and vocational learning. There shall be no cause of action for a parent, guardian or student who fails to obtain a competency determination, a certificate of mastery or a certificate of occupational proficiency."*

In order to qualify as a candidate for the Certificate of Occupational Proficiency in a specific Chapter 74-approved vocational technical education program, a student must possess a portfolio containing at a minimum a competency profile demonstrating the acquisition of the knowledge and skills associated with at least two years of full-time study in the program, as well as a career plan, **safety credential** and a resume.

In order to receive the Certificate of Occupational Proficiency, a student must qualify as a candidate for the Certificate of Occupational Proficiency, have acquired a state competency determination for high school graduation, and be in good standing to graduate from the high school in which he/she is enrolled. The student must receive a passing score, as determined by the Commissioner, on the written test and the performance test for the Certificate of Occupational Proficiency.

### **CHILD LABOR LAWS**

The Child Labor Laws govern employment of children. Chapter 74-approved vocational technical education programs may include cooperative education components and other paid (employment) work-based learning components, and thus the Child Labor Laws are applicable and must be understood and enforced. The Massachusetts Office of the Attorney General enforces the Massachusetts Child Labor Laws. The Chapter 74 Manual for Vocational Technical Cooperative Education at <http://www.doe.mass.edu/cte/programs/> contains information on the Child Labor Laws as they pertain to cooperative education. The link to the Massachusetts Child Labor Laws is <http://www.mass.gov/legis/laws/mgl/gl-149-toc.htm>.

### **MONITORING**

The Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education unit conducts onsite monitoring of school districts with career/vocational technical education programs to determine compliance with the requirements contained in the Carl D. Perkins Career and Technical Education Improvement Act of 2006 P.L. 109-270 (Perkins IV), Massachusetts General Law Chapter 74, Vocational Technical Education Regulations 603 CMR 4.00 and the federal Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color National Origin, Sex and Handicap in Vocational Education Programs - 34 CFR, Part 100, Appendix B.

Onsite monitoring is scheduled as part of the Department of Elementary and Secondary Education's Coordinated Program Review (CPR) system where several federal and state programs are monitored in the school district at the same time. An occupational safety specialist from the Massachusetts Division of Occupation Safety may assist in the reviews of Chapter 74-approved vocational technical education programs. The monitoring criteria and additional information may be obtained at <http://www.doe.mass.edu/cte/monitoring/>.

### **REPORTING**

The Massachusetts Department of Elementary and Secondary Education - Career Vocational Technical Education unit will develop an injury surveillance program for Chapter 74-approved vocational technical education programs.

## **APPENDIX A – SELECTED REFERENCES**

American Conference of Government Industrial Hygienists [www.acgih.org](http://www.acgih.org)

American Industrial Hygiene Association [www.aiha.org](http://www.aiha.org)

American Lung Association [www.lungusa.org](http://www.lungusa.org)

American National Standards Institute [www.ansi.org](http://www.ansi.org)

American Red Cross [www.redcross.org](http://www.redcross.org)

Carl D. Perkins Career and Technical Education Improvement Act of 2006 P.L. 109-270 (Perkins IV) <http://www.doe.mass.edu/cte/perkins/>

Career/Vocational Technical Education Advisory Committee Guide  
<http://www.doe.mass.edu/cte/resources/>

Centers for Disease Control and Prevention (CDC)  
<http://www.cdc.gov/>

Chapter 74 Manual for Vocational Technical Cooperative Education  
<http://www.doe.mass.edu/cte/programs/>

Chapter 74 Manual for Vocational Technical Education Programs  
<http://www.doe.mass.edu/cte/programs/>

Chapter 74 Selected Sections & 603 CMR 4.00 Vocational Technical Education Regulations and Guidelines <http://www.doe.mass.edu/cte/laws.html>

Chapter 74 Vocational Technical Education Program Directory  
<http://www.doe.mass.edu/cte/programs/>

Consumer Product Safety Commission [www.cpsc.gov](http://www.cpsc.gov)

Coordinated Program Review Procedures - School District Information Package  
Career/Vocational Technical Education (CVTE) School Year 2006-2007  
<http://www.doe.mass.edu/pqa/review/cpr/instrument/cte.doc>

Education Department General Administrative Regulations (EDGAR)  
<http://www.ed.gov/policy/fund/reg/edgarReg/edgar.html>

Grants for Schools: Getting Them and Using Them, A Procedural Manual  
<http://finance1.doe.mass.edu/Grants/>

Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color  
National Origin, Sex and Handicap in Vocational Education Programs - 34 CFR, Part 100,  
Appendix B <http://www.doe.mass.edu/cte/monitoring/>

Health and Safety Guide for K-12 Schools in Washington  
<http://www.k12.wa.us/SchFacilities/HealthSafetyGuide.aspx>

Healthy Schools Network, Inc. <http://www.healthyschools.org/index.html>

Industrial Safety Equipment Association [www.safetycentral.org](http://www.safetycentral.org)

Massachusetts Child Labor Laws <http://www.mass.gov/legis/laws/mgl/gl-149-toc.htm>

Massachusetts Department of Agricultural Resources <http://www.mass.gov/agr/>

Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education Unit Website <http://www.doe.mass.edu/cte/>

Massachusetts Department of Environmental Protection is <http://www.mass.gov/dep/>

Massachusetts Department of Fire Services  
<http://www.mass.gov/?pageID=eopsagencylanding&L=3&L0=Home&L1=Public+Safety+Agencies&L2=Massachusetts+Department+of+Fire+Services&sid=Eeops>

Massachusetts Department of Labor - Division of Occupational Safety <http://www.mass.gov/dos/>.

Massachusetts Department of Public Health is <http://www.mass.gov/dph/>.

Massachusetts Department of Workforce Development – Division of Apprenticeship Training  
<http://www.mass.gov/dat/>

Massachusetts General Law Chapter 71 Section 55C. Eye protection devices  
<http://www.mass.gov/legis/laws/mgl/71-55c.htm>

Massachusetts Office of the Attorney General <http://www.ago.state.ma.us/sp.cfm?pageid=1119>

Massachusetts Right to Know Employee Assistance Manual  
[www.mass.gov/dos/rtk/ma\\_rtk\\_employer\\_manual.pdf](http://www.mass.gov/dos/rtk/ma_rtk_employer_manual.pdf)

Massachusetts Vocational Technical Education Frameworks  
<http://www.doe.mass.edu/cte/frameworks.html>

MassCOSH: Massachusetts Coalition for Occupational Safety and Health  
[www.masscosh.org/](http://www.masscosh.org/)

Material Safety Data Sheets (MSDS) Enforcement  
<http://www.osha.gov/SLTC/hazardcommunications/index.html>

National Air Duct Cleaners Association [www.nadca.com/](http://www.nadca.com/)

National Cancer Institute [www.nci.nih.gov](http://www.nci.nih.gov)

National Fire Protection Agency [www.nfpa.org](http://www.nfpa.org)

National Safety Council [www.nsc.org](http://www.nsc.org)

Occupational Safety and Health Act of 1970  
[http://www.osha.gov/pls/oshaweb/owasrch.search\\_form?p\\_doc\\_type=OSHACT](http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=OSHACT)

Perkins IV Manual <http://www.doe.mass.edu/cte/perkins/>

Right to Know Act [www.epa.gov/region5/defs/html/epcra.htm](http://www.epa.gov/region5/defs/html/epcra.htm)

United States Consumer Product Safety Commission [www.cpsc.gov](http://www.cpsc.gov)

United States Department of Health and Human Services - National Institute of Health  
[www.nih.gov](http://www.nih.gov)

United States Department of Health and Human Services - Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)

United States Department of Health and Human Services - Centers for Disease Control and Prevention - National Institute for Occupational Safety and Health (NIOSH) Checklist Program  
<http://www.cdc.gov/niosh/docs/2004-101/>

United States Department of Health and Human Services - National Institute for Occupational Safety and Health (NIOSH)  
<http://www.cdc.gov/niosh/homepage.html>

United States Department of Labor - Bureau of Labor Statistics <http://stats.bls.gov/>

United States Environmental Protection Agency [www.epa.gov/](http://www.epa.gov/)

United States Fire Administration [www.usfa.fema.gov](http://www.usfa.fema.gov)

United States Food and Drug Administration [www.fda.gov](http://www.fda.gov)

United States Government Printing Office [www.access.gpo.gov](http://www.access.gpo.gov)

United States Occupational Health and Safety Administration (OSHA) <http://www.osha.gov/>

## APPENDIX B – QUESTIONS AND ANSWERS BY TOPIC

The questions and answers (Q & A) section is organized by topics in alphabetical order. Additional Q's and A's will be added. Note that staff in career/vocational technical education programs may email questions to the Massachusetts Department of Elementary and Secondary Education - Career/Vocational Technical Education Unit at [careervoctech@doe.mass.edu](mailto:careervoctech@doe.mass.edu). It is suggested however, that staff attempt to research the question first because very often the research leads to additional knowledge and the retention of knowledge. Certainly, the Career/Vocational Technical Education unit will be of assistance and would appreciate learning of the outcome of the research in order to share it with others through this Guide or other venues.

### EYE PROTECTION

Question 1E. What are the rules on eye protection devices?

Answer 1E. Massachusetts General Law Chapter 71: Section 55C. Eye protective devices states: "Each teacher and pupil of any school, public or private, shall, while attending school classes in industrial art or **vocational shops** or laboratories in which caustic or explosive chemicals, hot liquids or solids, hot molten metals, or explosives are used or in which welding of any type, repair or servicing of vehicles, heat treatment or tempering of metals, or the milling, sawing, stamping or cutting of solid materials, or any similar dangerous process is taught, exposure to which may be a source of danger to the eyes, wear an industrial quality eye protective device, approved by the department of public health. Each visitor to any such classroom or laboratory shall also be required to wear such protective device."

Question 2E. What are the rules on eyewash units?

Answer 2E. The Occupational Safety and Health Administration (OSHA) requires that where the eyes or body of any person may be exposed to injurious, corrosive materials suitable facilities for quick drenching or flushing of the eyes or body shall be provided within the work area for immediate emergency use. OSHA's definition of a corrosive is a chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. Under the provisions of OSHA's hazard communication standard, (29 CFR 1910.1200(g), employers are required to have a Material Safety Data Sheet (MSDS) in the work place for each hazardous chemical which they use. The MSDS provides information you need to ensure proper protective measures are implemented prior to exposure, including emergency and first aid procedures.

OSHA's hazard communication standard 29 CFR 1910.151(c) requires that eyewash units, "...shall be provided within the work area for immediate emergency use." OSHA standards are silent on a required distance and therefore the OSAHA refers to the recommendations with respect to highly corrosive chemicals contained in American Standard for Emergency Eyewash and Shower Equipment ANSI Z358.1-1990. OSHA interprets the phrase "within the work area" to require that eye/face wash units and emergency deluge showers both be located within 10 feet of unimpeded travel distance from the corrosive material hazard or, in the alternative, within the distance recommended by a physician or appropriate official the employer consulted.

### FIRE PROTECTION

Question 1F. Are Fire Blankets required in each Chapter 74-approved vocational technical education shop?

Answer 1F. The Massachusetts Executive Office of Public Safety - Department of Fire Services is responsible for promulgating and enforcing Board of Fire Prevention Regulations (527 CMR). In addition, the Department of Fire Services publishes advisories including specific advisories for schools. To view the regulations and advisories go to the Department of Fire Services homepage

at the link below. For advisories click on OSFM Advisories; for regulations click on Board of Fire Prevention Regulations.

<http://www.mass.gov/?pageID=eopsagencylanding&L=3&L0=Home&L1=Public+Safety+Agencies&L2=Massachusetts+Department+of+Fire+Services&sid=Eeops>

Note that in 2003 the OSFM (Office of the State Fire Marshall) issued an advisory on school regulations that contains a provision that each school laboratory (this would include shops) without an emergency wash system have at least one approved Fire Blanket. Please review the entire advisory at

<http://www.mass.gov/Eeops/docs/dfs/osfm/advisories/comprehensiveschoolregs.pdf>.

The text of the Board of Fire Prevention Regulation 527 CMR 10.02 concerning Fire Blankets is reprinted below.

“(2) Every school, college and university laboratory newly constructed or renovated, or any room used for similar purposes wherein corrosives or flammable liquids are handled or where open flame devices are used, shall be equipped with one or more Emergency Wash Systems. Emergency Wash Systems shall include Drench/Deluge Showers, Hand Held Body/Face Washers and Deck Mounted Drench Hoses. The permanently mounted showers shall be located as close to the main door of the laboratory as possible (to provide an escape route), but should not be located greater than 50' from an experimental area. The permanently mounted showers shall be capable of discharging a continuous spray at a rate of 30 gallons per minute. Emergency Wash Systems shall be tempered to between 70 degrees F and 90 degrees F. Cold potable water shall be permitted in those locations where tempered water is not accessible or as permitted by the head of the fire department.

The Drench/Deluge Showers, Hand Held Body/Face Washers and Deck Mounted Drench Hoses shall be installed in accordance with ANSI Z-358.1 and 248 CMR.

Each existing laboratory not equipped with an Emergency Wash System shall be equipped with at least one approved Fire Blanket, and a sign that reads: "In Case of Clothing Fire  
STOP, DROP and ROLL"

The location of the Emergency Wash System Stations, and Fire Blankets shall be clearly indicated by signs of contrasting color, either RED and WHITE or GREEN and WHITE. The signs shall be at least 70 square inches in area bearing the words "EMERGENCY WASH STATION", or "SAFETY SHOWER" or "FIRE BLANKET".

Every wash station shall be tested by the owner of the building or his designee twice annually (every six months) for proper flow and operation. The owner shall upon request, provide the fire department with the test result, (including but not limited to): date of test, station operation, system malfunctions, and the name of the person performing the test.

Each student shall be advised of the location and proper use of the above emergency safety equipment by the teacher, instructor, or person in charge of the class before the first experiment is conducted.

Each student shall also be instructed in the proper procedure for the extinguishment of clothing fires at least twice during the course, as directed by the head of the fire department. The installation and operation of each safety device noted above shall be in order before the commencement of any class conducting laboratory experiments.”

### **LOCKOUT/TAGOUT (LOTO)**

Question 1L. What is LOTO?

Answer 1L. Per OSHA Lockout/Tagout (LOTO) refers to specific practices and procedures to safeguard employees from the unexpected energization or startup of machinery and equipment, or the release of hazardous energy during service or maintenance activities. Per OSHA compliance

with the Lockout/Tagout standard (29 CFR 1910.147) prevents an estimated 120 fatalities and 50,000 injuries each year. OSHA's Lockout/Tagout standard is available at [www.osha.gov/SLTC/controlhazardousenergy/index.html](http://www.osha.gov/SLTC/controlhazardousenergy/index.html).

### **MATERIAL SAFETY DATA SHEETS**

Question 1M. What are the main rules about Material Safety Data Sheets?

Answer 1M. The Material Safety Data Sheet (MSDS) is designed to provide workers including teachers as well as students and emergency personnel with the proper procedures for handling or working with a particular substance. The Material Data Sheet is developed by the product manufacturer and must be obtained by request if one is not sent with the product. Each Material Data Sheet includes information such as physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures. Material Safety Data sheets are of particular use if a spill or other accident occurs. Material Safety Data Sheets must be posted in shops used for Chapter 74-approved vocational technical education programs and they must be used for instruction.

The Massachusetts law (Massachusetts General Law Chapter 111F) governs hazardous substance disclosures by employers and includes requirements regarding Material Safety Data Sheets. The link to Massachusetts General Law Chapter 111F is <http://www.mass.gov/legis/laws/mgl/gl-111f-toc.htm>. Under the provisions of the Occupational Safety and Health Administration (OSHA) hazard communication standard, (29 CFR 1910.1200(g)), employers are required to have a Material Safety Data Sheet in the work place for each hazardous chemical which they use. The Material Safety Data Sheet provides information you need to ensure proper protective measures are implemented prior to exposure, including emergency and first aid procedures. Additional information regarding Material Safety Data Sheets is available at <http://www.osha.gov/SLTC/hazardcommunications/index.html> and at <http://www.ilpi.com/msds/faq/index.html>.

### **PERSONAL PROTECTIVE EQUIPMENT**

Question 1P. Where may I obtain information on Personal Protective Equipment (PPE)?

Answer 1P. Note that eye protection, which is PPE, is discussed above under Question 1 E. Additional information on eye protection as well as information on other PPE is contained in OSHA guidelines on PPE are available at [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10120](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10120)

Question 2P. Where may I obtain information on Respirators?

Answer 2P. Respirators are essential for certain types of work including but not limited to work in automotive collision repair and refinishing and agriculture. Information is available at [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=12716&p\\_table=STANDARD](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&p_table=STANDARD)  
[S](#)

The Massachusetts Department of Labor - Division of Occupational Safety provides resources concerning fit testing of respirators. Information is available at <http://www.mass.gov/dos/iaqdocs/iaq-406.htm>.

### **RIGHT TO KNOW ACT**

Question 1R. What is the Right to Know Act?

Answer 1R. The federal law known officially at the Emergency Planning & Community Right to Know Act (42 U.S.C. 11001 et seq. (1986)) was designated to help local communities protect public health, safety, and the environment from chemical hazards. It is especially relevant for many Chapter 74-approved vocational technical education programs.

The Massachusetts law (Massachusetts General Law Chapter 111F) governs hazardous substances disclosures by employers and includes requirements regarding Material Safety Data Sheets. The link to M.G.L. c. 111F is <http://www.mass.gov/legis/laws/mgl/gl-111f-toc.htm>. The Massachusetts Department of Labor - Division of Occupational Safety (DOS) produced a PowerPoint covering the components of the Right to Know Act. The PowerPoint is available at: <http://www.mass.gov/dos/forms/rtk-pres.pps>.

### **YELLOW SAFETY LINES**

Question 1Y. Should shops such as carpentry that are used for Chapter 74-approved vocational technical education programs paint yellow lines around each piece of equipment that may be hazardous?

Answer 1Y. Aisles and walkways must be marked as appropriate. Yellow lines may deter students and staff from entering an area that may pose danger. OSHA produced a self-inspection checklist for walkways that should be reviewed. The link is <http://www.osha.gov/SLTC/smallbusiness/chklist.html#walking>.

## APPENDIX C

### APPLICABLE NIOSH CHECKLIST FOR PROGRAMS

School district staff should complete the appropriate checklists as a self-evaluation prior to the onsite. School district staff should select the checklist (s) that are/is applicable to the school district's individual proposed vocational technical education program. In making the decision regarding the checklist (s) to apply, school district staff should consider the particular equipment, material safety data sheets, etc. that are used for the individual program.

PROGRAM	NIOSH CHECKLIST
<b>Agriculture &amp; Natural Resources Cluster</b>	
Agricultural Mechanics	Agricultural Education
Animal Science	Agricultural Education
Environmental Science & Technology	Agricultural Education
Horticulture	Agricultural Education
<b>Arts &amp; Communication Services Cluster</b>	
Design & Visual Communications	Communications Technologies
Graphic Communications	Communications Technologies; Precision Production; Visual & Performing Arts, as applicable to individual programs
Radio & Television Broadcasting	Communications Technologies; Visual & Performing Arts, as applicable to individual programs
<b>Business and Administration Services Cluster</b>	
Cosmetology	Personal and Miscellaneous Services
Fashion Technology	Home Economics-Related Occupations Education; Marketing Education, as applicable to individual programs
Marketing	Marketing Education
Office Technology	Business Education
<b>Construction Cluster</b>	
Cabinetmaking	Construction Trades; Precision Production, as applicable to individual programs
Carpentry	Construction Trades
Electricity	Construction Trades
Facilities Management	Construction Trades
Heating - Ventilation - Air Conditioning - Refrigeration	Mechanics and Repairers
Masonry & Tile Setting	Construction Trades
Painting & Design Technologies	Construction Trades
Plumbing	Construction Trades
Sheet Metalworking	Construction Trades; Precision Production, as applicable to individual programs

<b>APPLICABLE NIOSH CHECKLIST FOR PROGRAMS</b>	
<b>PROGRAM</b>	<b>NIOSH CHECKLIST</b>
<b>Education Cluster</b>	
Early Education and Care	Home Economics-Related Occupations Education
<b>Health Services Cluster</b>	
Dental Assisting	Health Occupations Education
Health Assisting	Health Occupations Education
Medical Assisting	Health Occupations Education
<b>Hospitality and Tourism Cluster</b>	
Culinary Arts	Personal and Miscellaneous Services
Hospitality Management	Marketing Education
<b>Information Technology Services Cluster</b>	
Information Support Services & Networking	Business Education
Programming & Web Development	Business Education
<b>Manufacturing, Engineering and Technology Cluster</b>	
Biotechnology	
Drafting	Precision Production
Electronics	Engineering - Related Technologies; Mechanics and Repairers as applicable to individual programs
Engineering Technology	Engineering - Related Technologies
Machine Tool Technology	Precision Production
Major Appliance Installation/Repairing	Mechanics and Repairers
Metal Fabrication & Joining Technologies	Precision Production
Robotics and Automation Technology	Engineering – Related Technologies
Stationary Engineering	Engineering - Related Technologies; Mechanics and Repairers, as applicable to individual programs
Telecommunications - Fiber Optics	Engineering - Related Technologies; Mechanics and Repairers as applicable to individual programs
<b>Transportation Cluster</b>	
Automotive Collision Repair & Refinishing	Mechanics and Repairers
Automotive Technology	Engineering - Related Technologies; Mechanics and Repairers, as applicable to individual programs
Diesel Technology	Mechanics and Repairers
Marine Service Technology	Mechanics and Repairers; Transportation and Materials Moving Worker, as applicable to individual programs
Power Equipment Technology	Mechanics and Repairers

