

CTE: Helping Students
Become Career and
College Ready

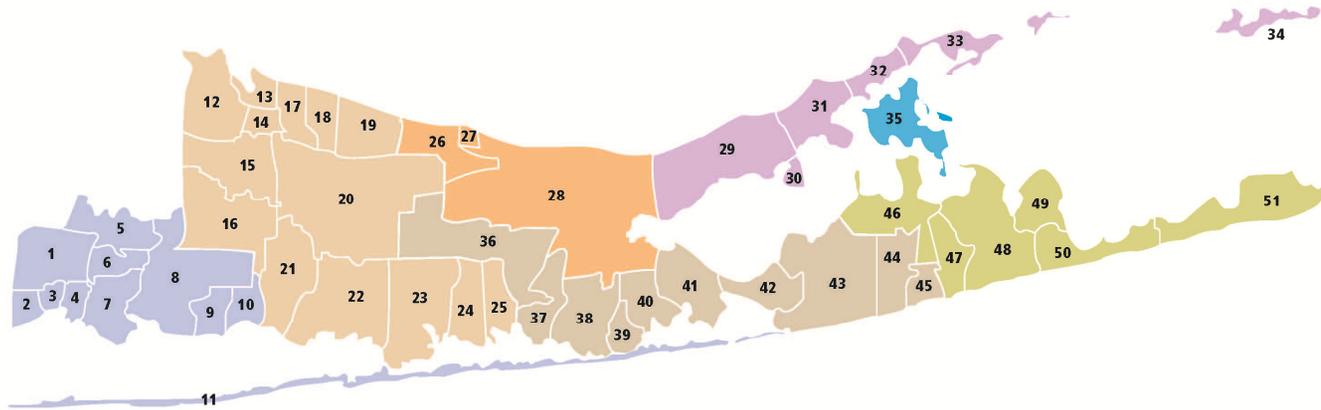
Leah Arnold

Director of Career, Technical and Adult Education
Eastern Suffolk BOCES

Robert Van Brunt
Program Administrator
Eastern Suffolk BOCES







Islip 1 Brentwood UFSD 2 West Islip UFSD 3 Bay Shore UFSD 4 Islip UFSD 5 Hauppauge UFSD 6 Central Islip UFSD 7 East Islip UFSD 8 Connetquot CSD 9 Sayville UFSD 10 Bayport-Blue Point UFSD 11 Fire Island UFSD	Brookhaven 12 Three Village CSD 13 Port Jefferson UFSD 14 Comsewogue UFSD 15 Middle Country CSD 16 Sachem CSD 17 Mount Sinai UFSD 18 Miller Place UFSD 19 Rocky Point UFSD 20 Longwood CSD 21 Patchogue-Medford UFSD 22 South Country CSD 23 William Floyd UFSD 24 Center Moriches UFSD 25 East Moriches UFSD	Riverhead 26 Shoreham-Wading River CSD 27 Little Flower UFSD 28 Riverhead CSD Southold 29 Mattituck-Cutchogue UFSD 30 New Suffolk Common SD 31 Southold UFSD 32 Greenport UFSD 33 Oysterponds UFSD 34 Fishers Island UFSD	Shelter Island 35 Shelter Island UFSD Southampton 36 Eastport-South Manor CSD 37 Remsenburg-Speonk UFSD 38 Westhampton Beach UFSD 39 Quogue UFSD 40 East Quogue UFSD 41 Hampton Bays UFSD 42 Tuckahoe Common SD 43 Southampton UFSD 44 Bridgehampton UFSD 45 Sagaponack Common SD	East Hampton 46 Sag Harbor UFSD 47 Wainscott Common SD 48 East Hampton UFSD 49 Springs UFSD 50 Amagansett UFSD 51 Montauk UFSD
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- West Islip School District to Montauk School District
- 51 Long Island School Districts
- 40+ High Schools - Public and Private
- General Ed Career and Technical Education Programs - 1,844 Students
- Special Career Education Programs - 445 Students

What is Career Technical Education? (CTE)





Typing classes!!



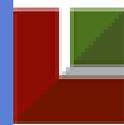
who remembers??







Bill Daggett



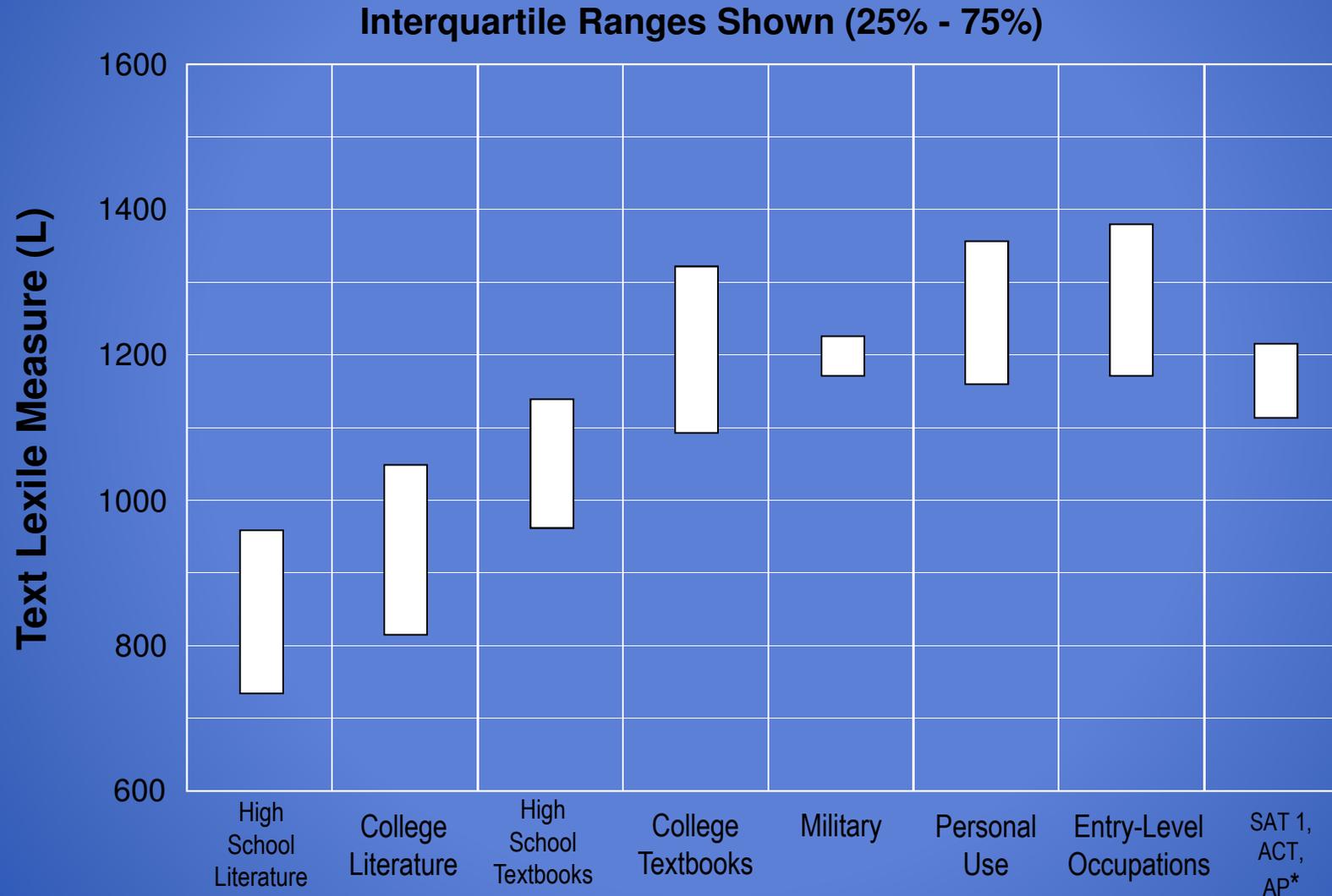
International Center for
Leadership in Education

RIGOROUS LEARNING FOR ALL STUDENTS





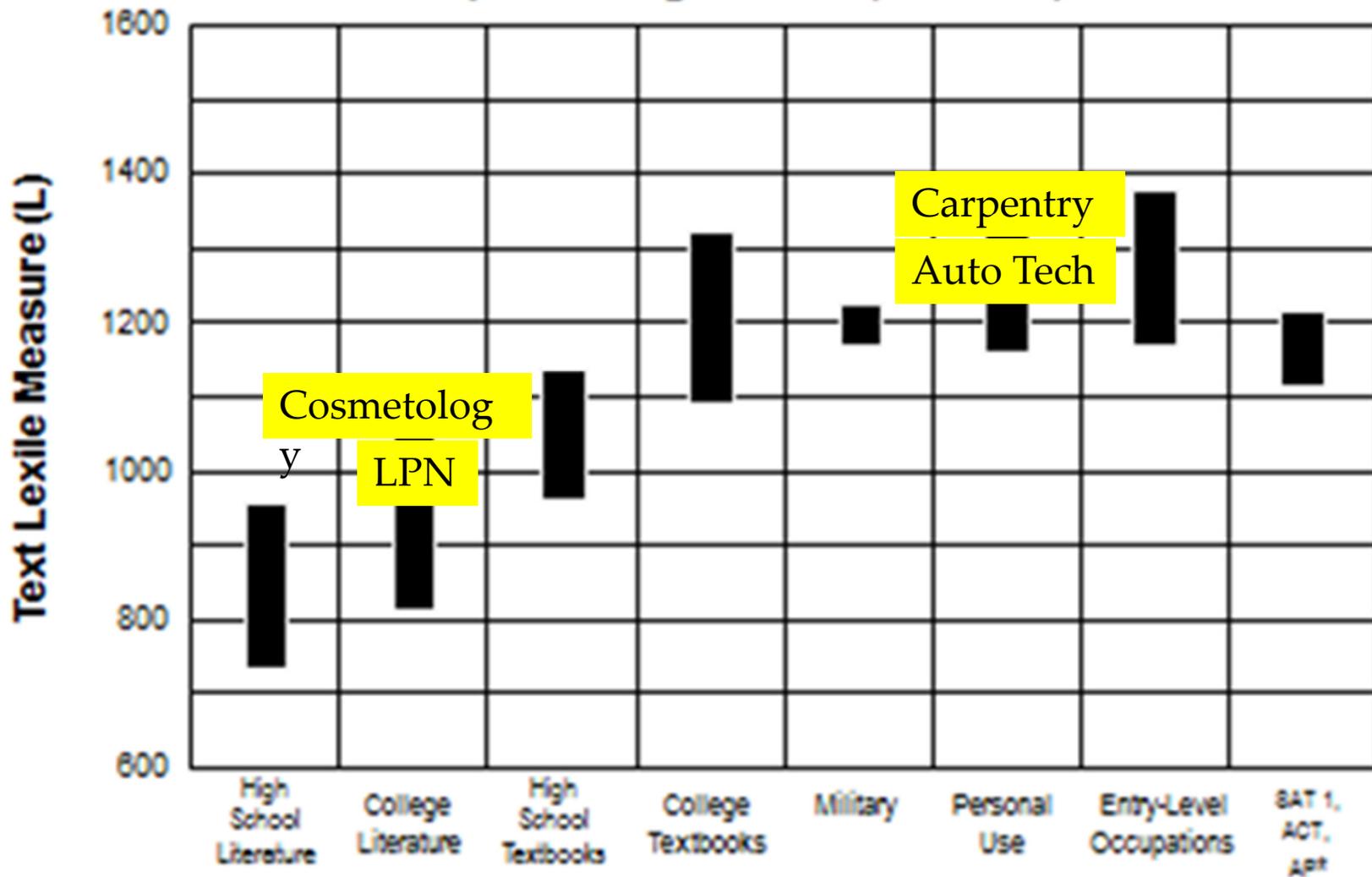
Reading Study Summary



* Source of National Test Data: MetaMetrics

Reading Study Summary

Interquartile Ranges Shown (25% - 75%)



* Source of National Test Data: MetaMetrics

Use a weather-pack repair kit, which includes new seals. After the repair has been made, push the wire through the connector's seal. Re-form the locking tang and assemble the two halves of the connector.

Replacing a Terminal

Terminal ends are replaced when they are damaged or to accommodate the use of a connector. The replacement process must be done to provide for good continuity and to prevent electrical problems in the future.

9. Install the terminal into the connector. Make sure the locking clip is in the proper position. If it is not, use the terminal pick to gently bend it back to its original shape.
10. Push the terminal into the connector until a click is heard.
11. Gently pull on the wire. If the terminal is locked in the connector, it will not move.
12. Tape the new wire to the wiring harness (Figure 16-83). If the harness is contained in conduit, make sure it is fully enclosed and tape the outside of the conduit.

PROCEDURE

Guidelines for Terminal Replacement

1. Measure the diameter of the wire's insulation with a micrometer or vernier caliper.
2. Identify the type of terminal and use the measurement to select the correct size for the replacement terminal.
3. Select the correct size for the replacement wire.
4. Cut the old terminal from the wire in the harness.
5. Use the old wire as a guide and cut the replacement wire slightly longer.
6. Strip the insulation from the wire (Figure 16-81) in the harness and both ends of the replacement wire. Normally, $\frac{1}{8}$ -inch of insulation should be removed. Make sure the strands of wire are not damaged while removing the insulation.
7. If heat shrink will be used to seal the connections, slip the appropriate length of tubing over the end of the wire that will be spliced.
8. Place the ends of the wires into the terminal and connectors and crimp the terminal (Figure 16-82). To get a proper crimp, place the open area of the connector facing toward the anvil of the tool. Make sure the wire is compressed under the crimp.

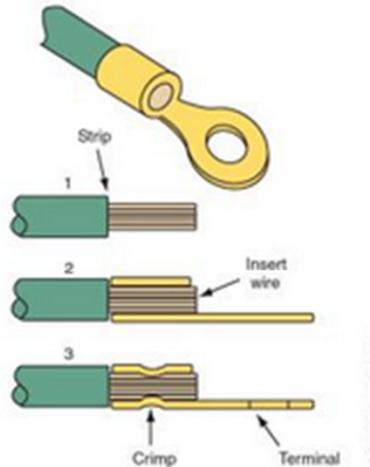


Figure 16-82 Placing a wire into and crimping it in a connector.

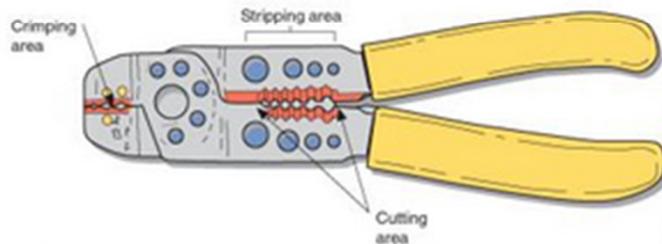


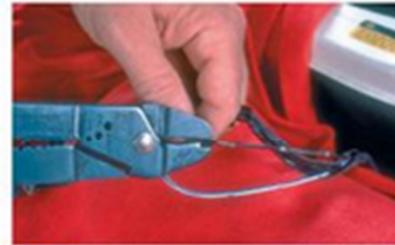
Figure 16-81 A typical crimping tool used for making electrical repairs.



P14-1 Tools required to solder copper wire: 100-watt soldering iron, 60/40 rosin core solder, crimping tool, splice clip, heat shrink tube, heating gun, and safety glasses.



P14-2 Disconnect the fuse that powers the circuit being repaired. Note: If the circuit is not protected by a fuse, disconnect the ground lead of the battery.



P14-3 Cut out the damaged wire.



P14-4 Using the correct size stripper, remove about $\frac{1}{8}$ inch of the insulation from both wires.



P14-5 Now remove about $\frac{1}{8}$ inch of the insulation from both ends of the replacement wire. The length of the replacement wire should be slightly longer than the length of the wire removed.



P14-6 Select the proper size splice clip to hold the splice.

Links to
Precipart
Video

STEM is CTE

50% of all Science, Technology, Engineering and Mathematics (STEM) jobs are open to workers with less than a bachelor's degree.

30% of today's STEM-intensive jobs are in blue collar fields.

CTE is ...

SCIENCE

61% of CTE students interested in a science career report that their CTE courses provide them with skills for the workforce.



CTE is ...

TECHNOLOGY

1/2 of STEM jobs are in manufacturing, health care and construction, while another 12 percent of STEM jobs are in installation, maintenance and repair.



CTE

Career and Technical Education

CTE is ...

ENGINEERING

18% job growth is projected for environmental engineering technicians by 2022. These jobs typically require an associate's degree and pay more than \$45,000 per year.



CTE is ...

MATHEMATICS

45% of CTE students interested in a math career report that their CTE courses help them attain higher math and/or science skills.



Association for Career and Technical Education
ACTE

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Phone: 800-826-9972 • Fax: 703-683-7424
www.acteonline.org • Connecting Education and Careers

References for this research can be found at
www.acteonline.org or by contacting
clmparsons@acteonline.org.

What is different about today's Career and Technical Education?

It's not SHOP CLASS Anymore!!!

The Past Vocational Education or Occupational Education	The Future Career and Technical Education
High School Focused	Links Secondary, Post- secondary and Workforce
6-7 Program Areas	16 Career Clusters 79 Career Pathways
In Lieu of Academics	Supports and Reinforces Academic Learning
Tracked	Fully Integrated
Terminal	Continuous, Lifelong Learning

US Department Of Labor

16 Career Clusters





Source: A

Our Best Advocates - Our Students



Career and College Ready

- Technical Endorsement
- CTE Pathway Diploma
- CDOS Pathway Diploma/Credential

- College Articulations/Dual Enrollment

See One Page Handout



CTE Technical Endorsement

Est. 2001

Technical Endorsement Requirements

- Student must:
 - Successfully complete an approved program of study
 - Successfully complete our Career and Financial Management Course
 - Score 65+ 3-Part Industry Assessment
 - Work-Based Learning Activities



New Ways for Students to Graduate High School

- CDOS Credential - June 2013
 - <http://www.p12.nysed.gov/specialed/publications/CDOScredential-memo-613.htm>
- CTE Pathway - October 2014
 - <http://www.p12.nysed.gov/cte/video/regents-approve-multiple-pathways.html>
- CDOS Pathway- March 22, 2016
 - <http://www.regents.nysed.gov/common/regents/files/316p12a1.pdf>



Handout

CTE Pathway Regents Diploma	CDOS Credential	CDOS Pathway Regents Diploma
Meet the minimum diploma requirement of 22 credits	No minimum credit requirement	Meet the minimum diploma requirement of 22 credits
Pass the 4 required Regents exams, one each in ELA, Math, Science and Social Studies	No Regents exam requirement, but students need to have access to Regents coursework	Pass the 4 required Regents exams, one each in ELA, Math, Science and Social Studies



CTE Pathway Regents Diploma	CDOS Credential	CDOS Pathway Regents Diploma
<p>Successfully complete an approved CTE program of study that includes :</p> <ul style="list-style-type: none"> ➤ 3 or more credits of CTE instruction that is rigorous and focused in a specific career pathway ➤ Work-based learning experiences ➤ A 3-part, industry-based national technical assessment ➤ A completed employability profile 	<p style="text-align: center;"><u>Option 1</u></p> <ul style="list-style-type: none"> ➤ A completed Career Plan ➤ Demonstrate achievement of the CDOS learning standards 1, 2 & 3a ➤ Successful completion of at least 216 hours of CTE coursework and/or work-based learning experiences (of which at least 54 hours must be in work-based learning) ➤ A completed employability profile 	<p>Complete the requirements for the CDOS Credential in Option 1 or Option 2</p>



CTE Pathway Regents Diploma	CDOS Credential	CDOS Pathway Regents Diploma
<p>Pass the technical assessment that has been approved by the Commissioner and Board of Regents</p>	<p><u>Option 2</u> Meet the requirements for one of the nationally recognized work readiness credentials including, but not limited to:</p> <ul style="list-style-type: none"> ➤ National Work Readiness Credential ➤ SkillsUSA Work Force Ready Employability Assessment ➤ National Career Readiness Certificate ➤ WorkKeys ➤ Comprehensive Adult Student Assessment Systems Workforce Skills Certification System 	<p>Complete the requirements for the CDOS Credential in Option 1 or Option 2</p>

CTE Pathway Technical Assessments

- Spring 2001 - Technical Endorsement Assessments
- April 2015 - 14 Exams
- March 2016 - 30 Exams
- March 2017 - Additional exam expected to be added

Last year, over 800 out of 1,606 students were eligible to take a CTE Pathway Examination





- Art, Design & Visual Communications
- Auto Body Repair & After-Market Accessories
- Automotive Technology
- Carpentry / Residential Construction & Home Improvement
- Clinical Medical Assisting
- Computer Technology and Repair
- Engineering
- Electrical Trade & Alternative Energy
- Heating, Ventilation & Air Conditioning
- Law Enforcement
- Plumbing & Heating
- Television, Video & Digital Film Production
- Welding / Metal Fabrication



CTE Pathway Technical Assessments

- Students must successfully complete the course
- Students must pass both the written and performance portion on the State Approved **PATHWAY** exam
- Student must pass the three part **INDUSTRY ASSESSMENT** Exam which may be different from the **PATHWAY** Exam
- Employability Profile
- District must determine if students meet the criteria of passing 4 Regents Exams

High School Diploma

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CDOS Pathway

General Education and Special Education Students



- Employability Profiles
- Work-Based Learning Hours
- Contact Hours
- Final Grade Report

High School Diploma

CDOS Credential- Special Education Students

- BOCES Employability Profile
 - CTE and SCE Students
- Work Experience and Contact Hours
 - CTE and SCE Students
- Final Grade Report



• Not A High School Diploma •

Career Ready

- Federal / State Licensure
- Industry Certifications
- Internships
- Community Service





CERTIFIED

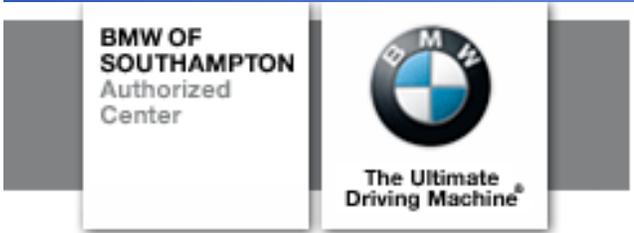


NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH



Business and Industry Partners

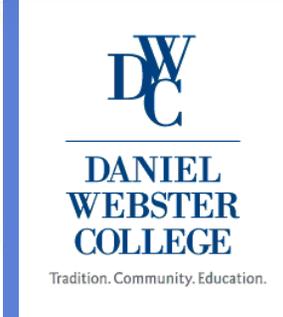
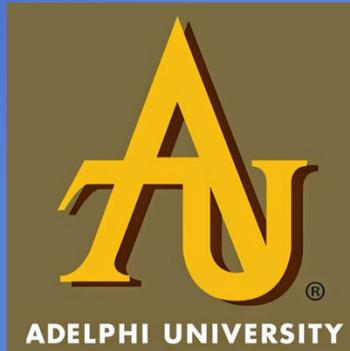
Over 350 Large and Small Businesses work with us annually



Even our B&I Partners brag about our Students



Over 90 College Articulation/Dual Enrollment Agreements



CTE Certification Process Summary

INSTRUCTOR

- Reviews & updates curriculum, which includes course goals and learner outcomes
- Sequencing of content

ACADEMIC REVIEWERS

- Reviews curricula utilizing the academic lens of his/her expertise (ELA, Math, Science)
- Analyzes curriculum for sufficient hours of academic content

INDUSTRY REVIEWERS

- Reviews curriculum for knowledge, skills and abilities in terms of employability readiness at the entry-level in the field

*Curriculum updated annually by teachers
Reviewed and Resubmitted to NYSED every 5 years*

Data Collection Required

Advisory Committees

What is the Purpose of an Advisory Committee?

- To assist educators in establishing, operating and evaluating the CTE Program
 - Updates to Curriculum
 - Review teaching material for accuracy
 - Provide input on equipment purchases
 - Establish Safety Guidelines
- Programs should be tailored to meet the workforce development needs of the community and the interests of the students
- Strengthen the collaboration between those responsible for CTE Programs and the communities they serve



Who should be a member of your Advisory Committee?

- | | |
|---|---|
| <ul style="list-style-type: none">• Business/Industry /Labor member(s) with expertise in the CTE program• School Counselor• Parent• CTE Chairperson and other members of District Admin. | <ul style="list-style-type: none">• CTE Teacher of the CTE Program• Post-secondary Institution• District Representatives• Students |
|---|---|

LIVE Work Experience

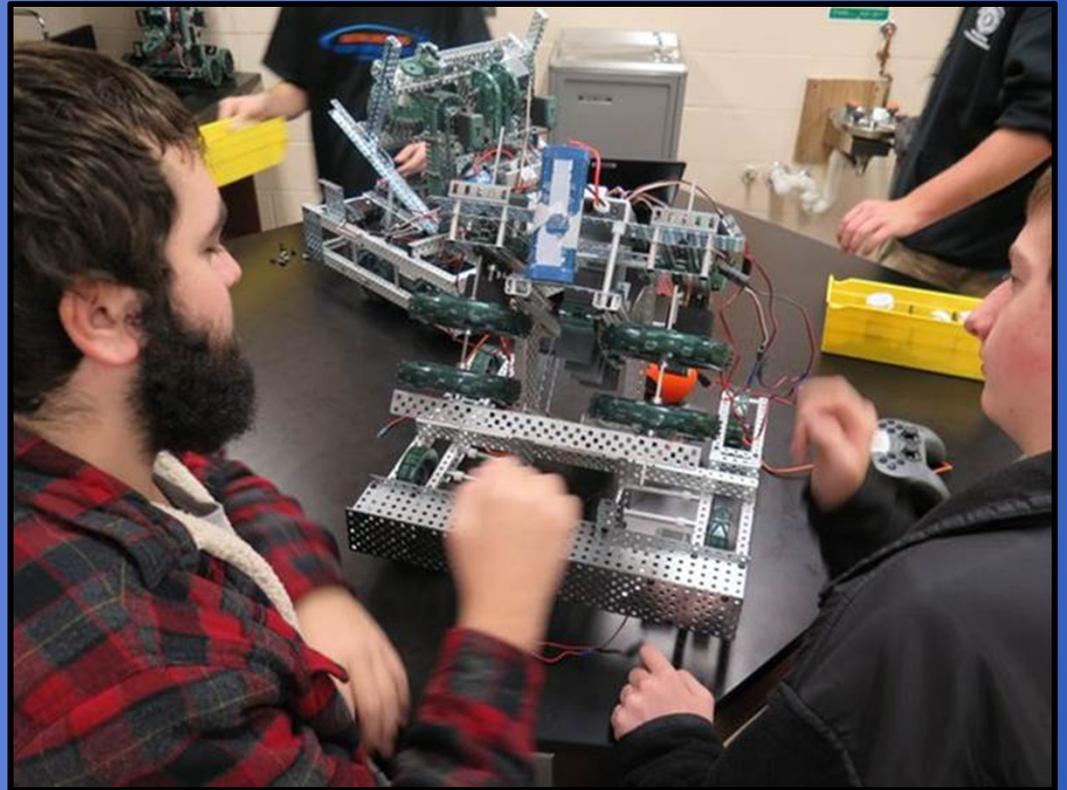


Community Service



CTE is Not Just for BOCES

- Business Departments
- Art and Music Departments
- English and Science Electives
- Family Consumer Science
- Technology





Contact Information

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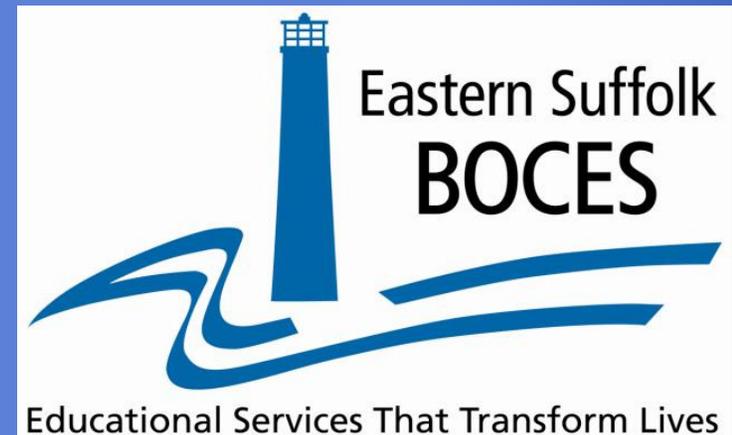


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Eastern Long Island Academy of Applied Technology
STEM High School

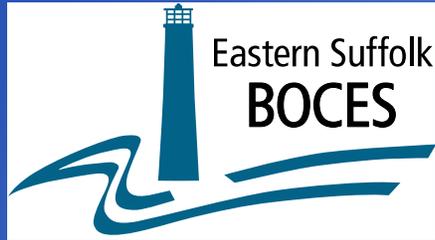
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Inquiries regarding the implementation of the above laws should be directed to either of Eastern Suffolk BOCES Civil Rights Compliance Officers: the Assistant Superintendent for Human Resources, 201 Sunrise Highway, Patchogue, NY 11772, 631-687-3029, ComplianceOfficers@esboces.org; or the Associate Superintendent for Educational Services, 201 Sunrise Highway, Patchogue, NY 11772, 631-687-3056, ComplianceOfficers@esboces.org. Inquiries may also be addressed to the Office for Civil Rights at the US Department of Education, 32 Old Slip, 26th Floor, New York, NY 10005, 646-428-3800, OCR.NewYork@ed.gov.