

# Charting the Course

CLICK THE LINKS BELOW TO EXPLORE...



## Career Clusters

- [Agriculture, Food & Natural Resources](#)
- [Architecture & Construction](#)
- [Arts, A/V Technology & Communications](#)
- [Business Management & Administration](#)
- [Education & Training](#)
- [Finance](#)
- [Government & Public Administration](#)
- [Health Science](#)
- [Hospitality & Tourism](#)
- [Human Services](#)
- [Information Technology](#)
- [Law, Public Safety, Corrections & Security](#)
- [Manufacturing](#)
- [Marketing](#)
- [Science, Technology, Engineering & Mathematics \(STEM\)](#)
- [Transportation, Distribution & Logistics](#)

## TCE Center Programs

- [Advance Technology Center](#)
- [Tech Center](#)

## High School Academies

- [Entrepreneurship & Business](#)
- [Global Studies & World Languages](#)
- [Governor's STEM & Technology](#)
- [Green Run Collegiate](#)
- [Health Sciences](#)
- [International Baccalaureate](#)
- [Legal Studies](#)
- [Mathematics & Science](#)
- [Visual & Performing Arts](#)

## Dual Enrollment Programs

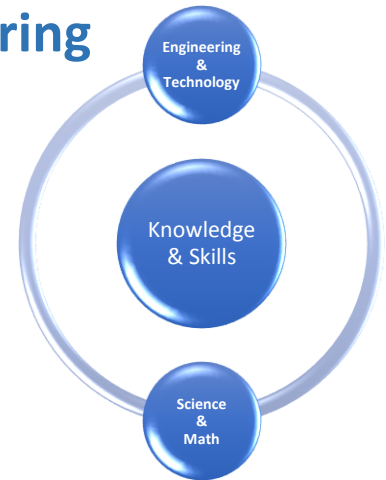
- [Tidewater Community College \(TCC\)](#)

# Science, Technology, Engineering & Mathematics (STEM)

This Program of Study prepares learners for careers in designing, planning, managing, building and maintaining the building environment. People employed in this cluster work on new structures, restorations, additions, alterations and repairs.

## Pathways:

- Engineering & Technology
- Science & Math



Map pin denotes Virginia Beach Economic Development key industries aligned with career clusters

## Suggested Learning Experiences

<b>Middle School Electives</b>	<ul style="list-style-type: none"> <li>• Exploratory Tech Ed., Computer Solutions and Adv. Computer Solutions, Keyboarding</li> </ul>
<b>Advanced Studies Diploma Coursework</b>	<ul style="list-style-type: none"> <li>• <b>ENGLISH:</b> Any sequence meeting graduation requirements</li> <li>• <b>MATH:</b> Algebra I, Geometry, Algebra II Trig, Math Analysis or higher</li> <li>• <b>SCIENCE:</b> Earth Science, Biology, Chemistry, Physics or an AP Science</li> <li>• <b>SOCIAL STUDIES:</b> Any sequence meeting graduation requirements</li> </ul>
<b>Standard Diploma Coursework</b>	<ul style="list-style-type: none"> <li>• <b>ENGLISH:</b> Any sequence meeting graduation requirements</li> <li>• <b>MATH:</b> Algebra I, Geometry, Algebra II or Algebra II/Trig</li> <li>• <b>SCIENCE:</b> Earth Science, Biology, Chemistry</li> <li>• <b>SOCIAL STUDIES:</b> Any sequence meeting graduation requirements</li> </ul>
<b>Career Coursework</b>	<ul style="list-style-type: none"> <li>• Materials Technology I &amp; II, Introduction to Engineering, Basic Technical Drawing, Engineering Drawing, Engineering Design, Engineering Technology I &amp; II, Dual Enrollment Engineering Technology I &amp; II, Electronic Systems I &amp; II, Electronics I &amp; II</li> </ul>
<b>Academy/Center Programs</b>	<ul style="list-style-type: none"> <li>• <a href="#">Advance Technology Center</a></li> <li>• <a href="#">Governor's STEM &amp; Technology Academy</a> (Landstown High School)</li> <li>• <a href="#">Mathematics &amp; Science Academy</a> (Ocean Lakes High School)</li> <li>• <a href="#">Virginia Beach Career &amp; Technical Center</a></li> </ul>
<b>Industry Certifications</b>	<ul style="list-style-type: none"> <li>• AutoCAD Certified User, Autodesk Inventor Certified User, CareerSafe OSHA 10 - Engineering Technology, GEF: Sustainability 101, House Wiring Residential Construction Exam, NOCTI Electrical Construction, NOCTI Electronics Assessment, NOCTI Electronics Technology, NOCTI House Wiring Basic, NOCTI Manufacturing Technology, NOCTI Pre-engineering &amp; Engineering Technology, NRF Customer Service &amp; Sales, NRF Advanced Customer Service &amp; Sales, OSHA 10-Hour Construction Safety &amp; Health, SolidWorks</li> </ul>
<b>Student Organizations</b>	<ul style="list-style-type: none"> <li>• <a href="#">SkillsUSA</a></li> <li>• <a href="#">TSA - Technology Student Association</a></li> </ul>
<b>Career Exploration/Enrichment</b>	<ul style="list-style-type: none"> <li>• <a href="#">RU Ready</a></li> <li>• <a href="#">VA Wizard for College &amp; Career Information</a></li> <li>• <a href="#">VA Career V.I.E.W. for K-8 Career Information</a></li> <li>• <a href="#">Major Clarity</a></li> </ul>
<b>Co-operative Education /Internships</b>	<ul style="list-style-type: none"> <li>• Co-op or internship recommended</li> <li>• STIHL Internship via the ATC Engineering Program</li> </ul>



# Science, Technology, Engineering, & Math (STEM)

## Career Types by Pathway

HIGH SCHOOL DIPLOMA ON-THE-JOB TRAINING	CERTIFICATE/LICENSE	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
<b>ENGINEERING &amp; TECHNOLOGY</b>				
		Biology Chemistry Laboratory Science Technology Medical Laboratory Technology	Chemistry Economics Mathematics Molecular Biology Physics	Biochemistry Biological Sciences Chemistry Physics and Astronomy Statistics
<b>SCIENCE &amp; MATHEMATICS</b>				
	Industrial Technology	Architectural Design Technology Civil Engineering Technology Industrial Technology Surveying and Computer Aided Drafting (CAD)	Agricultural Engineering Biological Systems Engineering Chemical Engineering Construction Engineering Technology Industrial Engineering	Agricultural and Biological Systems Architectural Engineering Chemical Engineering Civil Engineering Mechanical Engineering

Adapted from: [www.nbexcellence.org](http://www.nbexcellence.org) - ACPGuide1617c.pdf