

ADVANCED MANUFACTURING AND PLTW ENGINEERING PATHWAYS

CTE Advocacy. Increased Funding. Redesign. Partnerships.



Guilford County has
the highest number
of manufacturing jobs
among NC counties

Source: Guilford County Economic Development Alliance
(GCEDA)



By 2026 the field of
Engineering will have

THE MOST in the
NEW JOBS United
States

Source: U.S. Bureau of Labor Statistics



By 2026 there will be
10,900 jobs

in manufacturing engineering
in the United States

Source: U.S. Labor Bureau of Statistics



CTE CAREER PATHWAY Advanced Manufacturing (ADMA)				
	9th Grade	10th Grade	11th Grade	12th Grade
PATHWAY COMPLETER	CTE Course FOUNDATIONAL	CTE Course PREREQUISITE	CTE Course CONCENTRATOR	CTE CAREER COURSE
CTE CONCENTRATOR	IM11 Advanced Manufacturing I	IM12 Advanced Manufacturing II*	TR13 SREB AC Mechatronic Systems for Advanced Production	Work-Based Learning: CTE Apprenticeship, Cooperative Education (Co-op), Clinical or CTE Internship
CTE MAJOR				
SUPPLEMENTAL CTE COURSES	CC11 Microsoft Excel ME11 Entrepreneurship I BF10 Business Essentials CC20 Computer Science I			
CAREER & COLLEGE PROMISE	Recommended Career & College Promise (CCP) Pathway: Computer Integrated Machining Diploma			
CTE Industry Recognized Credentials: CPT Safety AND CPT Maintenance Awareness; CPT Quality Practices and Measurement AND CPT Manufacturing Processes and Production; OSHA 10-Hour Industry Certification (optional credential offered anytime)				
CTE Careers Existing Today and Tomorrow: Electrical Engineer, Automation Engineer, Ceramics and Optical Expert, Mechatronics Hardware Engineer				

CTE CAREER PATHWAY PLTW Engineering (PLWE)				
	9th Grade	10th Grade	11th Grade	12th Grade
PATHWAY COMPLETER	CTE Course FOUNDATIONAL	CTE Course PREREQUISITE	CTE Course CONCENTRATOR	CTE CAREER COURSE
CTE CONCENTRATOR	TP11 PLTW Introduction to Engineering Design	TP12 PLTW Principles of Engineering	TP27 PLTW Environmental Sustainability* or TP22 Computer Integrated Manufacturing*	TP31 PLTW Engineering Design & Development Work-Based Learning: CTE Apprenticeship, Cooperative Education (Co-op), Clinical or CTE Internship
CTE MAJOR				
SUPPLEMENTAL CTE COURSES	CC11 Microsoft Excel ME11 Entrepreneurship I BF10 Business Essentials CS20 Computer Science I			
CAREER & COLLEGE PROMISE	Recommended Career & College Promise (CCP) Pathway: Computer Integrated Machining Diploma			
CTE Industry Recognized Credentials: OSHA 10-Hour Industry Certification (optional credential offered anytime)				
CTE Careers Existing Today and Tomorrow: Mechanical Engineer, CAD Designer, Product Developer; Systems Transitionists, Efficiency Optimizer, Mass Energy Storage Developer				

CTE...the Ultimate Classroom to Career Experience!

*Denotes CTE Concentrator Course