



Career and Technical Education Educator License Areas

Division of College and Career Readiness

March 2026

MARYLAND STATE DEPARTMENT OF EDUCATION**Carey M. Wright, Ed.D.**

State Superintendent of Schools

Tenette Smith, Ed.D.

Deputy State Superintendent
Office of Teaching and Learning

Richard Kincaid, Ed.D.

Assistant State Superintendent
Division of College and Career Pathways

Wes Moore

Governor

MARYLAND STATE BOARD OF EDUCATION

Joshua L. Michael, Ph.D., President

Monica Goldson, Ed.D., Vice President

O'Marie Barnes, Student Member

James C. Bell, Jr., Ed.D.

Chuen-Chin Bianca Chang, MSN, PNP, RN-BC

Alverne "Chet" Chesterfield

Kenny Clash

Nick Greer

Dr. Irma E. Johnson

Marcy Leonard

Dr. Kim Lewis

Xiomara V. Medina, M.Ed.

Samir Paul, Esq.

Table of Contents

Document Control Information (Use only if needed)	3
Introduction	4
Advanced Manufacturing Career Cluster Programs.....	7
Agriculture Career Cluster Programs.....	8
Arts, Entertainment, and Design.....	9
Construction	10
Digital Technology	11
Education	13
Energy and Natural Resources.....	14
Financial Services	15
Healthcare and Human Services	16
Hospitality, Events, and Tourism	18
Management and Entrepreneurship	19
Marketing and Sales	20
Public Service and Safety	21
Supply Chain and Transportation	23

Document Control Information (Use only if needed)

Title:	CTE Educator License Areas
Security Level:	Unclassified – For Official Use Only
File Name:	CTE_Educator_License_Areas_2026

DOCUMENT HISTORY

Document Version	Date	Summary of Change
1.0	August 2021	Initial Document
2.0	March 2026	Update

Introduction

Career and Technical Education (CTE) prepares students for immediate entry into the workforce and/or postsecondary education. There are over 48 CTE programs of study that address Maryland's current and future workforce needs. Each program of study requires educators that possess the skill and knowledge to prepare students for careers in identified programs of study. The purpose of this document is to identify educator license areas for each CTE program of study.

The Maryland educator licensure process verifies that educators have the qualifications and appropriate training to execute their professional responsibilities. There are seven Maryland educator licenses applicable to CTE teachers—see Table 1.

Table 1: Educator License Types

License Type	Eligibility Criteria	Validity Period
Initial Professional License (IPL)	Issued to an educator who meets the requirements of one of the pathways to initial licensure	Five-year (5) renewable license
Professional License (PL)	Meet the requirements of one of the pathways to initial licensure Complete a Maryland induction program or 3 years of effective performance	Five-year (5) renewable license
Advanced Professional License (APL)	Meet the requirements of one of the pathways to initial licensure Complete a Maryland induction program or 3 years of effective performance Submit one of the following: - o National Board Certificate issued by the National Board for Professional Teaching Standards - o Master's degree (or higher) - o 30 semester hours of post-baccalaureate credit	Five-year (5) renewable license

License Type	Eligibility Criteria	Validity Period
Temporary Professional License (TPL)	Issued by a Maryland local school district, State-operated school, or nonpublic special education program to an employed teacher who has completed an out-of-State teacher preparation program or holds a valid out-of-State professional license, and meets all of the requirements for licensure except Maryland licensure assessments	Two-year (2) non-renewable license
Conditional License (CL)	Issued by a Maryland local school district, State-operated school, or nonpublic special education program to an employed teacher who is working toward professional licensure	Five-year (5) non-renewable license for special education Five-year (5) non-renewable license for all other teaching areas
Resident Teacher License (RTL)	Issued by a Maryland local school district, State-operated school, or nonpublic special education program to a candidate enrolled in an alternative preparation program	Three-year (3) non-renewable license
Adjunct License (AL)	Issued by a Maryland local school district, State-operated school, or nonpublic special education program under certain circumstances to a part-time employed teacher who has extensive experience in the field being taught	One-year (1) renewable license

This document identifies areas of licensure that would qualify a teacher to facilitate instruction in specific CTE programs of study. The document is organized by career cluster. Each career cluster contains a brief description of the cluster and a table that identifies the CTE program of study, licensure areas that will allow teachers to facilitate instruction for the CTE program, and the Code of Maryland Regulation where additional information can be found.

Some CTE programs of study require teachers to have a specific industry credential for students to earn their industry certification. The tables in this document identify programs of study that require facilitation of instruction by an industry-certificated teacher. Some CTE programs of study require teachers to participate in specific professional learning experiences. It is beyond the scope of this document to identify all required professional learning experiences. Local CTE Directors receive a list of professional learning opportunities for CTE teachers annually from the Division of College and Career Pathways.

A comprehensive overview of educator licensure areas in Maryland is located on the Division of Educator Effectiveness webpage:

<https://www.marylandpublicschools.org/about/pages/dee/certification/index.aspx>.

Advanced Manufacturing Career Cluster Programs

The Advanced Manufacturing Career Cluster blends innovative technologies and practices to enhance design and production. It covers areas such as engineering, research and development, automation and artificial intelligence, equipment maintenance, safety protocols, and quality control. This Cluster aims to increase efficiency, reduce waste, ensure safety, and produce high-quality goods, driving the industry's growth and adapting to modern demands. Maryland offers two programs of study within this cluster: Engineering and Machining Technology.

CTE Program of Study	Areas of Licensure
Engineering	Computer Science (7-12) Mathematics (7-12) Physical Science (7-12) Physics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
Machining Technology	Mathematics (7-12) Physical Science (7-12) Technology Education (7-12) Professional and Technical Education (7-12)

Agriculture Career Cluster Programs

The Agriculture Career Cluster concentrates on scientific advancement of agriscience, cultivation, processing, and distribution of agricultural products, employing advanced technologies and sustainable practices to optimize global food systems. This Cluster also supports other plant- and animal-based industries including regenerative agriculture, sustainable logging, and fisheries. This Cluster has meaningful connections with the Energy and Natural Resources Cluster, highlighting a symbiotic relationship that emphasizes stewardship and resilient communities.

CTE Program of Study	Areas of Licensure
*Agriculture Science	Agriculture/Agribusiness and Renewable Natural Resources (7-12) Biology (7-12) Environmental Science (7-12) Professional and Technical Education (7-12)
**Agriculture Mechanics	Agriculture/Agribusiness and Renewable Natural Resources (7-12) Professional and Technical Education (7-12)
Horticulture Mechanics	Agriculture/Agribusiness and Renewable Natural Resources (7-12) Biology (7-12) Environmental Science (7-12) Professional and Technical Education (7-12)

*There are standards within this CTE Program of Study that are in development and have not been approved by the Maryland State Board of Education.

**The standards for the CTE Program of Study are in development and have not been approved by the Maryland State Board of Education.

Arts, Entertainment, and Design

The Arts, Entertainment, & Design Career Cluster combines creative roles in visual and performing arts, film, journalism, fashion, interior design, and creative technologies. This Cluster focuses on creating, producing, and sharing artistic and design work across multiple platforms, aiming to entertain, inform, beautify, and inspire.

CTE Program of Study	Areas of Licensure
Animation and Game Design	Art (PreK-12) Computer Science (7-12) Professional and Technical Education (7-12)
Graphic Communications	Art (PreK-12) Computer Science (7-12) Marketing Professional and Technical Education (7-12)
Video and Audio Production	Art (PreK-12) Professional and Technical Education (7-12)

Construction

The Construction Career Cluster focuses on professions involved in designing, planning, managing, and executing projects in the built environment. It emphasizes sustainable building practices to ensure that structures are both environmentally responsible and resilient. Careers in this Cluster are pivotal in creating durable infrastructure that meets present needs without compromising future generations' ability to meet their own, covering a range of roles from architects and engineers to construction managers and skilled tradespeople.

CTE Program of Study	Areas of Licensure
Architecture Design and Drafting	Technology Education (7-12) Professional and Technical Education (7-12)
Carpentry	Technology Education (7-12) Professional and Technical Education (7-12)
Electrical	Technology Education (7-12) Professional and Technical Education (7-12)
Facilities Management	Technology Education (7-12) Professional and Technical Education (7-12)
HVACR	Technology Education (7-12) Professional and Technical Education (7-12)
Masonry	Technology Education (7-12) Professional and Technical Education (7-12)
Plumbing	Technology Education (7-12) Professional and Technical Education (7-12)
Welding	Technology Education (7-12) Professional and Technical Education (7-12)

Digital Technology

The Digital Technology Career Cluster focuses on developing digital systems for communication and data storage using critical technologies such as artificial intelligence (AI), data analytics, and cybersecurity. This Cluster builds skills necessary for all careers to navigate and lead in the constantly evolving tech landscape and drives innovation across all industries to tackle complex challenges and opportunities in communities and economies.

CTE Program of Study	Areas of Licensure
Computer Programming	Business Education (7-12) Computer Science (7-12) Mathematics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
Cybersecurity	Business Education (7-12) Computer Science (7-12) Mathematics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
Machine Learning and Data Science	Business Education (7-12) Computer Science (7-12) Mathematics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
Networking	Business Education (7-12) Computer Science (7-12) Mathematics (7-12)

CTE Program of Study	Areas of Licensure
	Technology Education (7-12) Professional and Technical Education (7-12)

Education

The Education Career Cluster spans careers aimed at fostering learning from early childhood to adulthood, including teaching, instructional design, counseling services, community engagement, learner support, and educator training. This Cluster emphasizes quality education standards and lifelong learning, preparing individuals for success through all life stages by nurturing knowledge, skills, and critical thinking and encouraging personal and societal growth in a constantly evolving world.

CTE Program of Study	Areas of Licensure
Early Childhood	Early Childhood Education Professional and Technical Education (7-12)
Teacher Academy	Any General Secondary Content Area (7-12) can teach the Teacher Academy

Energy and Natural Resources

The Energy & Natural Resources Career Cluster spans careers in traditional and renewable fuel production, power generation and energy conversion, utilities, environmental preservation, ecological research, and resource extraction. These industries focus on efficient and responsible resource management, including conservation, transmission, distribution and storage, to minimize environmental impacts and meet global energy needs. Careers in this Cluster are dedicated to creating a sustainable future, innovating cleaner energy solutions, and preserving our planet's natural resources for generations to come.

CTE Program of Study	Areas of Licensure
Renewable Energy	Environmental Science (7-12) Mathematics (7-12) Physical Science (7-12) Physics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
**Natural Resource Management	Agriculture/Agribusiness and Renewable Natural Resources (7-12) Biology (7-12) Earth Science (7-12) Environmental Science (7-12) Physical Science (7-12) Professional and Technical Education (7-12)

**The standards for the CTE Program of Study are in development and have not been approved by the Maryland State Board of Education.

Financial Services

The Financial Services Career Cluster encompasses careers in managing and advising financial transactions, including banking, lending, corporate finance, debt management, accounting, insurance, and real estate. These careers contribute to economic stability and growth by supporting the financial health of individuals and organizations.

CTE Program of Study	Areas of Licensure
Financial Services and Accounting	Business Education (7-12) Economics (7-12) Professional and Technical Education (7-12)

Healthcare and Human Services

The Healthcare & Human Services Career Cluster promotes whole health in individuals and communities through a diverse array of services. This sector includes technical, mental, and therapeutic services and personal care, supported by medical and social sciences. By addressing social determinants of health and leveraging health data and science, this Cluster aims to enhance the overall health and resilience of individuals, families, and communities.

HEALTHCARE

CTE Program of Study	Areas of Licensure
Biomedical Science	Biology (7-12) Chemistry (7-12) Health (PreK-12) Professional and Technical Education (7-12)
Biotechnology	Biology (7-12) Chemistry (7-12) Health (PreK-12) Professional and Technical Education (7-12)
Certified Clinical Medical Assistance	Biology (7-12) Health (PreK-12) Professional and Technical Education (7-12)
Certified Nursing Assistant	Biology (7-12) Health (PreK-12) Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland Board of Nursing</i>

CTE Program of Study	Areas of Licensure
Dental Assistant	Biology (7-12) Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland State Board of Dental Examiners</i>
Pharmacy Technician	Biology (7-12) Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland Board of Pharmacy</i>
Physical Rehabilitation	Biology (7-12) Health (PreK-12) Physical Education (PreK-12) Professional and Technical Education (7-12)

HUMAN SERVICES

CTE Program of Study	License Area Options and Code of Maryland Regulation (COMAR) Areas of Licensure
Barbering	Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland Board of Barbers</i>
Cosmetology	Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland State Board of Cosmetology</i>
Nail Technician	Professional and Technical Education (7-12) <i>Must meet the requirements set forth by the Maryland State Board of Cosmetology</i>

Hospitality, Events, and Tourism

The Hospitality, Events, & Tourism Career Cluster encompasses a broad range of services and experiences related to food and beverage, lodging, travel, events, and conferences. This Cluster focuses on delivering quality customer service, memorable experiences, and seamless logistics to cater to the needs and preferences of guests, tourists, and event participants. The Cluster is characterized by its diversity, including everything from luxury hotels and international travel to local dining, cultural events, and business conferences, aiming to enhance the overall experience of visitors and attendees.

CTE Program of Study	Areas of Licensure
Baking and Pastry Arts	Family and Consumer Science (7-12) Professional and Technical Education (7-12)
Culinary Arts	Family and Consumer Science (7-12) Professional and Technical Education (7-12)
Hotel and Resort Management	Business Education (7-12) Family and Consumer Science (7-12) Marketing (7-12) Professional and Technical Education (7-12)

Management and Entrepreneurship

The Management & Entrepreneurship Career Cluster involves skills and occupations that are essential across all industries, focusing on business administration, operations optimization, strategic planning, workforce management, and entrepreneurship. It merges key areas such as data management and analysis, human resources, general operations, administrative support, project management, and organizational leadership. This Cluster ensures that businesses across all industries efficiently meet their goals, adapt to market changes, and maintain competitive advantage. By emphasizing entrepreneurship, this Cluster supports the creation of new ventures, driving economic growth and innovation and making it a cornerstone of modern economies.

CTE Program of Study	Areas of Licensure
Management and Entrepreneurship	Business Education (7-12) Economics (7-12) Marketing (7-12) Professional and Technical Education (7-12)

Marketing and Sales

The Marketing & Sales Career Cluster focuses on promoting products, understanding consumer needs, engaging with communities, and driving sales. It integrates digital marketing, data analysis, brand promotion, customer relationship management, strategic communications, human-centered design, and retail strategies to build strong customer connections and support business growth. This Cluster is essential in all industries for creating value, effectively reaching and engaging target audiences, and achieving commercial success in a competitive marketplace.

CTE Program of Study	Areas of Licensure
Marketing and Sales	Business Education (7-12) Marketing (7-12) Professional and Technical Education (7-12)

Public Service and Safety

The Public Service & Safety Career Cluster encompasses roles in local, state, and federal government; legal and justice systems; security; and military operations, all aimed at promoting civic responsibility and ensuring the well-being, security, functionality, and resilience of communities, states, and countries.

CTE Program of Study	Areas of Licensure
Criminal Justice and Law Enforcement	Government/Political Science (7-12) Social Studies (7-12) Professional and Technical Education (7-12)
Emergency Medical Technician	Biology (7-12) Health (PreK-12) Professional and Technical Education (7-12) <i>EMT instructors must meet requirements established by MIFRI and Maryland Institute for Emergency Medical Technician Systems (MIEMSS)</i>
Emergency Response	Biology (7-12) Health (PreK-12) Professional and Technical Education (7-12) <i>EMR instructors must meet requirements established by MIFRI and Maryland Institute for Emergency Medical Technician Systems (MIEMSS)</i>
Firefighter	Health (PreK-12) Professional and Technical Education (7-12) <i>Firefighter instructors must be certified by USM's Maryland Instructor Certification Review Board.</i>

CTE Program of Study	Areas of Licensure
JROTC Armed Forces	JROTC instructors must meet requirements established by the United States Department of Defense.

Supply Chain and Transportation

The Supply Chain & Transportation Career Cluster encompasses the transfer, coordination, and management of goods from production to consumption, ensuring efficient movement across various modes of transportation including air, ground, and water, as well as maintenance of the respective transport modes. This Cluster integrates logistics and distribution networks to facilitate the seamless flow of materials and products, playing a crucial role in global commerce, economic development, and community health.

CTE Program of Study	Areas of Licensure
Aeronautics, Aviation, Aerospace Science, and Technology	Mathematics (7-12) Physical Science (7-12) Physics (7-12) Technology Education (7-12) Professional and Technical Education (7-12)
Autobody Collision	Professional and Technical (7-12) <i>Teachers must have or be working towards earning an Automotive Service Excellence (ASE) or I-CAR Certification.</i>
Automotive Technology	Professional and Technical Education (7-12) <i>Teachers must have or be working towards earning an Automotive Service Excellence (ASE) or I-CAR Certification.</i>
Medium-Heavy Truck	Professional and Technical Education (7-12) <i>Teachers must have or be working towards earning an Automotive Service Excellence (ASE) or I-CAR Certification.</i>
Marine Maintenance Repair	Professional and Technical Education (7-12)