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SECTION I – INTRODUCTION

Delaware Career & Technical Education Vision, Mission, and Core Values

The Delaware Department of Education (DDOE) is committed to serving every student and ensuring that all children are career and college ready. This expectation has shaped extensive school reform, including the alignment of academic and technical instruction within a comprehensive model of Career and Technical Education (CTE) that reflects the needs of our economy and creates a systemic process for career preparation. This document will serve as a guide to support the implementation of high quality CTE programs of study across Delaware’s secondary and post-secondary education system.

Delaware Department of Education
Career & Technical Education Core Values

Value & Responsibility – we strive to continuously improve all aspects of our work and create value for our customers, stakeholders, and students.

Shared Leadership & Accountability – we model leadership by taking actions that are ethical and reasonable to create shared accountability amongst stakeholders.

Collaboration & Expectation – we value the input and contribution of all stakeholders and work collaboratively to exceed expectations.

Communication & Public Responsibility – we communicate through clear and concise methods to engage the public and accelerate our work.

Career & Technical Education Theory of Action

If students participate in Career & Technical Education programs that are driven by the economy, developed in partnership with relevant stakeholders, provide early career and college experiences, as well as connect academic and career success measures...

then students will engage in learning to master academic, technical, and career skills that prepare them for high school graduation, post-secondary education, and competitive employment in high skill, high wage, high demand careers.
SECTION I – INTRODUCTION

The Delaware Department of Education’s Teaching and Learning Branch has defined a model of career preparation that includes a state-led effort in Career and Technical Education (CTE) and the development of statewide CTE programs of study in demand-driven occupations. Each CTE program of study seamlessly aligns academic and technical instruction to meet the prerequisite expectations of employers and ensures that every child has the opportunity to continue their education and seek career success. This work is guided by three key principles and the belief that CTE programs of study:

1. Prepare students for career success and post-secondary education.

   The terms “career ready” and “college ready” are synonymous. In order to earn a livable wage in today’s economy, all students must possess a credential beyond a high school diploma and be prepared to continue their education in the form of two- and four-year college or university, certification programs, apprenticeship, formal job training, or military service. CTE programs of study align academic and technical knowledge at the secondary and post-secondary levels by creating multiple entry and exit points for students to pursue a career and continue their education. Students who complete a CTE program of study have the opportunity to earn an industry recognized credential and continue their education while simultaneously engaging with employers to familiarize themselves with the culture of work.

2. Align with workforce needs and are developed in partnership with relevant stakeholders.

   A dynamic workforce development system begins in the K-12 setting and involves established relationships with state agencies, service providers, business representatives, and institutions of higher education. These partners play a vital role in aligning education and training programs to ensure that students and adults can move efficiently into employment. The DDOE partners with a variety of stakeholders, including business associations and institutions of higher education, to continuously improve Delaware’s career preparation system and to guide the development and implementation of CTE programs of study that are responsive to the changing workforce needs. CTE programs of study establish a direct link between the public education system, post-secondary education, and changes in regional employment demand and supply.

3. Improve student achievement by connecting academic and career success measures.

   Programs of study measure student achievement in academic and technical areas and promote employability skills. They produce higher levels of student achievement by defining a rigorous technical and academic course sequence at the secondary and post-secondary levels that relates to a student’s career aspirations. Further, CTE programs of study provide a context for students to apply knowledge and career ready practices through project and problem-based learning that is authentic and reflects real-world application. The DDOE, local education agencies, and post-secondary institutions collect and use these data to drive a process of continuous program improvement, including making decisions regarding the viability of existing programs. State and local outcome data serve as a means of benchmarking program of study performance, closing achievement gaps, and ensuring every student becomes career and college ready.
SECTION I – INTRODUCTION

The Career Pathway System

The Career Pathway System represents the alignment of rigorous and high-quality education, training, and support services for students and adults to accelerate their education and career goals, demonstrate success in a full range of secondary and post-secondary education options, and pursue a meaningful career within a state or regional economy. Workforce development efforts within the Career Pathway System are anchored in the analysis of labor market information for demand-driven occupations, the use of evidence-based education and workforce development practices, and sector partnerships that connect employers, educational institutions, and services providers.

In Delaware, the Career Pathway System begins in the public education system through the development and implementation of CTE programs of study and continues through adult education and occupational training programs which are administered by partnering state agencies, institutions of higher education, and other service providers. CTE programs of study interconnect with the Career Pathway System by aligning secondary and post-secondary education programs that concurrently pair rigorous academics with workforce education within the context of a specific occupation or occupational cluster. This includes opportunities for students to participate in career counseling and defined work-based learning experiences that engage employers. These activities help students and adults to achieve their education and career goals as well as enter or advance in a career.

Delaware CTE programs of study are an essential component of Delaware’s workforce development system. As such, the DDOE employs the following graphic to illustrate a comprehensive model of workforce development that provides students with multiple entry and exit points to successfully pursue a career and continue their education. Students who complete a CTE program of study will attain a secondary school diploma or its equivalent and an industry recognized credential, certificate, or license which holds value at the professional level, post-secondary level, or in an associate or baccalaureate degree program.

Source: Adapted from Pathways to Prosperity, 2014 & Tennessee Department of Education, 2015
SECTION I – INTRODUCTION

The Career Clusters Framework®

The Career Clusters Framework® (see Appendix A) is an occupational coding structure that classifies CTE programs of study under a hierarchy of related career areas called Career Clusters and more specific occupational groupings called Career Pathways. The framework groups occupations into related areas that represent a segment of the economy and define the technical and academic skills required for career success. These expectations help to group occupation specific education and training programs into Career Pathways and assist states and local education agencies (LEAs) to work with partnering institutions of higher education to develop programs of study or aligned educational programs that bridge secondary and post-secondary instruction. Programs of study help students to discover their career interests and choose an educational path that leads to success in high school, opportunities for post-secondary education, and employment. For the list of all Career Clusters and their related Career Pathways please visit the National Association of State Directors of Career Technical Education Consortium's website (see Appendix A).

The DDOE is committed to assisting LEAs and post-secondary institutions with the development, implementation, and continuous improvement of CTE programs of study that contribute to Delaware’s economic development efforts and are in alignment with the state and regional workforce needs. As such, the Career Clusters Framework® provides a hierarchy to classify CTE programs of study and benchmark student outcome data to close achievement gaps. Additionally, the framework helps to align CTE programs of study to related occupations and relevant labor market information, ultimately connecting students to continuing education and a career.

Career Clusters are broad occupational groupings that define a set of common knowledge and skills required to be successful in a career area. Delaware has adopted the Career Clusters Framework® which helps to connect academic, technical, and employability skills within an occupational framework that is industry-focused, student-centered, and performance-driven. Each Delaware CTE program of study is structured within one of the sixteen (16) career clusters and leads to employment and post-secondary education. For more information on knowledge and skill statements specific to each Career Cluster, please visit the National Association of State Directors of Career Technical Education Consortium’s website (see Appendix A).
SECTION I – INTRODUCTION

**Career Pathways** represent the alignment of education and training programs for a specific occupation or occupational cluster and help students advance through higher levels of education and employment. **Career Pathways** begin in the public education system through the development and implementation of CTE programs of study and continue through adult education and occupational training programs. This includes opportunities for students to participate in career counseling and defined work-based learning experiences that engage employers. These activities help students to achieve their education and career goals as well as enter or advance in a career. **Career Pathways** are grouped around core knowledge and skills needed for career success and are used to develop and/or align curriculum, assessments, and instructional supports. Each Delaware CTE *program of study* is structured within a **Career Pathway** to connect education programs to a specific set of occupations.

**Programs of Study** provide a structured approach for delivering academic and career & technical education (CTE) through an aligned sequence of courses that build on each other through secondary and post-secondary instruction. Students who complete a CTE *program of study* will attain a secondary school diploma or its equivalent and an industry recognized credential, certificate, or license which holds value at the professional level, post-secondary level, or in an associate or baccalaureate degree program. The Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins) calls for states to offer CTE *programs of study* which may be developed or adopted by LEAs and post-secondary institutions as an option for students to plan and complete future coursework. All eligible recipients of Perkins (LEAs and post-secondary institutions) are required to offer at least one CTE *program of study*.

Delaware Administrative Code [14 DE Admin. Code 505](see Appendix A) requires that a public school student be granted a State of Delaware Diploma when such student has successfully completed a minimum of twenty two (22) credits including three (3) credits in a Career Pathway. A Delaware Career Pathway is defined as three credits of planned and sequential courses designed to develop knowledge and skills in a particular career or academic area. In this instance, the term Career Pathway is applied generally and refers to any sequence of courses where a LEA or Charter School Board has established policies concerning the purpose, content, development, and approval of such Career Pathway [14 DE Admin. Code 505 6.0](see Appendix A). Students who complete the secondary portion of a state approved CTE *program of study* have met the Delaware Career Pathway requirement for high school graduation.

**Student Success Plans** encompass a minimum of six years (8th through 12th grade and one-year beyond high school) and provide students with an opportunity to set education and career goals based on their academic and career interests [14 DE Admin. Code 505](see Appendix A). The student success plan (SSP) represents a fluid, yet sequential plan that is benchmarked to the interests and needs of a student. The plan connects students with the larger community and is guided by an advisement process that includes school staff, parents and/or guardians/caregivers, and career coaches or mentors.
SECTION II – DEVELOPMENT, IMPLEMENTATION, AND CONTINUOUS IMPROVEMENT

Career & Technical Education Program of Study Approval and Evaluation Overview

Local Education Agencies (LEA) seeking approval for a Career and Technical Education (CTE) program of study will submit an application using the process outlined in Section III of this document – Completing a Delaware CTE Program of Study Application (p. 21). Requests may be submitting for the following:

1. Adoption of a Delaware state-model CTE program of study; or
2. Development of a local CTE program of study.

The LEA shall employ a system-wide approach to develop and implement CTE programs of study in emerging industry sectors and eliminate programs that are underperforming. This work will be done in conjunction with a program advisory committee that is charged to review and establish CTE programs of study. To adopt a state-model CTE program of study or design a local CTE program of study the advisory committee will use local, state, and regional labor market information to assess the related employment needs and begin the process of adoption or development.

For existing CTE programs, the advisory committee will assess the performance of a CTE program of study and identify appropriate next steps to ensure the program reflects core functions of the industry sector as well as current and future workforce development needs. This will include the transition to a state-model CTE program of study or the elimination of programs when they are no longer relevant to the industry sector or if the program is underperforming. Minutes from all program advisory committee meetings must be recorded and reflective of decisions made by committee members.

Leaders at the LEA level are encouraged to contact the DDOE CTE & STEM policy advisor (see Appendix B) for technical assistance should the LEA wish to adopt a state-model CTE program of study or develop a local CTE program of study. In both instances the DDOE will commit a subject matter expert to provide technical assistance to the LEA as needed. All applications for state-model or local CTE programs of study must be approved by the Department of Education. All CTE programs of study will be monitored on a five-year cycle to ensure continuous program improvement.

Adopting a State-Model CTE Program of Study

This section applies to LEAs that do not offer a CTE program of study for a desired occupation or occupational cluster and wish to use an established instructional model to guide work at the local level. Each state-model CTE program of study is mapped to a demand driven occupation, includes a defined course sequence and instructional outline, opportunities for students to earn college credit and an industry recognized credential, support for school administrators and counselors, and course specific professional learning opportunities for teachers. Further, all Delaware state-model CTE programs of study are developed in conjunction with representatives from business and industry, secondary and post-secondary educators, and community stakeholders.

A current list of all state-model CTE programs of study (see Appendix A) is available on the DDOE website. When a LEA successfully applies for and adopts a state-model CTE program of study, all program requirements must be adhered to without modification; however, LEAs are encouraged to continuously improve the instructional model and identify best practices to meet the unique needs of the local community and students that are served.
Each state-model CTE program of study is available for LEA consideration and adoption. The DDOE CTE & STEM education associates (see Appendix B) will provide leadership and technical assistance to LEAs to successfully adopt, deliver, and continuously improve state-model CTE programs of study. The following documents are required for CTE program of study approval and have been completed to the extent possible for all state-model CTE programs of study. As an LEA considers the adoption of a state-model CTE program of study, the following resources should be reviewed and updated as necessary:

- The **Delaware CTE Program of Study Application** is available for all state-model CTE programs of study (see Appendix A) on the DDOE website. The application must be reviewed and completed by the LEA per the instructions in Section III (p. 21) of this document and submitted for program approval to the DDOE. This includes the application cover page, a list of program advisory committee members, the identification of value-added opportunities for students, and completion of the **Delaware CTE Program of Study Application**;

- The **Labor Market Information (LMI) Review** document has been completed for state-model CTE programs of study (see Appendix A) and the DDOE has published a corresponding real-time LMI report. This information should be used by the LEA to engage their program advisory committee and as background information to better understand employment and the prospective job market; and

- A **Memorandum of Understanding** (MOU) has been negotiated with partnering institutions of higher education for **Delaware CTE Program of Study Application** (see Appendix A) to serve as a statewide Articulation/Dual Enrollment Agreement. The MOU and subsequent benefit to students are inclusive of all LEAs that adopt and are approved to offer the state-model CTE program of study.

**Transitioning to a State-Model CTE Program of Study**

This section applies to LEAs that currently offer an approved CTE pathway, but wish to transition the existing instructional model to a state-model CTE program of study. When transitioning a previously approved CTE pathway to a state-model CTE program of study, the LEA will convene a program advisory committee to determine the need for transition and build an appropriate plan of work. The transition plan is a local tool and should include:

- How the existing CTE pathway will be phased out without negatively impacting students;
- How the new state-model CTE program of study will be implemented; and
- The process for continuous program improvement.

The program advisory committee and the LEA will determine the need to transition to a state-model CTE program of study and document action. The program advisory committee and LEA shall make the local community aware of the discussion and build community support for the transition. Further, the LEA shall work with teachers, school counselors, and school administrators to inform staff of the transition and work to identify potential student enrollment. Communication with all relevant stakeholders is essential to transition from a previously approved CTE pathway to a state-model CTE program of study. The LEA is encouraged to work purposefully and include input from a variety of stakeholders to support the transition.

The Delaware CTE & STEM office is committed to supporting the LEA’s adoption and successful
SECTION II – DEVELOPMENT, IMPLEMENTATION, AND CONTINUOUS IMPROVEMENT

implementation of a state-model CTE program of study. Technical assistance will be provided by the DDOE CTE & STEM education associates (see Appendix B) and will be customized to reflect the needs of the LEA throughout the transition.

**Developing a Local CTE Program of Study**

This section applies to LEAs that wish to design a CTE program of study that is unique to the local school system. The LEA will typically adopt or transition to a state-model CTE program of study; however, a LEA may choose to develop a local CTE program of study for an occupation or occupational cluster where there is not already an existing state-model. The DDOE CTE & STEM office will provide technical assistance to the LEA to develop and implement the instructional model as needed. Program evaluation will be conducted within the five-year CTE program of study review cycle.

The process to develop a local CTE program of study is a collaborative practice that results in the submission of a Delaware CTE Program of Study Application for approval through the DDOE. The three phases of program development apply to all state-model CTE programs of study and will be reflected as local CTE programs of study are developed. The steps for the development, implementation, and continuous improvement of both state-model and local CTE programs of study are depicted in the following chart and detailed in the following section. If the LEA would like technical assistance to begin the process or facilitate transition between phases, please contact the DDOE CTE & STEM policy advisor (see Appendix B).

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<th>Phase 1: Development</th>
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<td>A. Establish a Foundation for Success</td>
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<th>Phase 2: Implementation</th>
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<th>Phase 3: Continuous Improvement</th>
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SECTION II – DEVELOPMENT, IMPLEMENTATION, AND CONTINUOUS IMPROVEMENT

PHASE 1: DEVELOPMENT

A successful CTE program of study begins with a vision and a succinct plan for implementation. The DDOE recommends using the Delaware CTE Program of Study Application as a template to document work. When the development phase is complete this work can be submitted for approval through the DDOE.

A. Establish a Foundation for Success

A strong foundation is essential to effectively develop, implement, and continuously improve a CTE program of study. LEAs shall participate in the following action steps before proceeding in the development of a local program of study.

1. Collect, review, and analyze local, state, and regional labor market information:

   Career and Technical Education (CTE) programs of study are linked to early career and employment opportunities. Since the economic data system is dynamic, CTE programs of study require a continuous evaluation to effectively place students in gainful employment and post-secondary education. Therefore, labor market supply and demand factors must be analyzed to ensure that CTE programs of study are responsive to the changing workforce needs.

   Labor Market Information (LMI) refers to data regarding labor demand and supply, occupational growth, wage projections, regional employment statistics, and short-term employment trends based on job postings. An important component of LMI is the long-term (typically 10-year) employment projections for occupations and industries. Such data help educators make timely changes to their program offerings in order to match changes in regional employment demand and supply.

   Real-time LMI can also be used to information CTE program of study development, which typically consists of trends and analysis of online job postings throughout the region. Many real-time LMI reports use a job-spidering tool that accesses and aggregates online job posting data from job boards, newspapers, employer websites, and other online sources. Real-time LMI is valuable data for assisting in the identification of baseline trends, specialty and/or software skills, educational preferences, related experience, and industry certifications needed for hire. In addition, the data may help to identify or corroborate regional differences in hiring requirements as well as preferences and characteristics for a specified occupation or group of occupations. Real-time LMI is not an appropriate tool for determining actual current job-demand for specific occupations or geographies and should not be used as a primary data source for long-range strategic planning.

   To assist LEAs in gathering and analyzing LMI, the DDOE has created the Labor Market Information (LMI) Instructions & Guidance document and the Labor Market Information (LMI) Review document (see Appendix A). The LMI Instructions & Guidance document provides an overview of long-term LMI data, a process to collect and report data, as well as suggested background and methodology that can be applied to analyze LMI data. Additionally, the document provides instructions on how to complete the Delaware CTE Program of Study Application document which is required to be submitted as an attachment to each application for a state-model or local CTE program of study.
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It is highly recommended that LEAs complete and seek feedback on the LMI Review document before proceeding in the development of a local CTE program of study. Occupational demand and supporting LMI is prerequisite to CTE program of study approval. Additional resources for obtaining current LMI are available through the following links (see Appendix A):

- Delaware Department of Labor – 10-year occupation and industry projections at the state and county levels;
- Delaware 2022 Occupation and Industry Projections – provides a copy (print version) of the labor market projections including a section on occupations by Career Cluster; and
- Economic Development and Employer Planning System (EDEPS) – uses Bureau of Labor Statistics (BLS) data to provide national, state, and regional data by occupation, industry, and career cluster. The “Unit of Analysis” selection provides both demand and supply data (post-secondary completion) for most occupational areas.

2. Create a link between secondary and post-secondary education and training programs:
As the LEA develops a local CTE program of study, support from both two- and four-year institutions of higher education is essential. A CTE program of study links coursework at the secondary and post-secondary levels so that students may attain a secondary school diploma or its equivalent and an industry recognized credential, certificate, or license which holds value at the professional level, post-secondary level, or in an associate or baccalaureate degree program. Ideally, local CTE programs of study define a course sequence that progresses through the attainment of an associate or baccalaureate degree. The program should also document opportunities for students to transition between education levels and seek employment.

It is highly recommended that LEAs engage with post-secondary partners to review and align education and training programs before proceeding in the development of a local CTE program of study. A local CTE program of study must include an established MOU or agreement that depicts a learning progression beyond high school. The alignment of secondary and post-secondary coursework is prerequisite to CTE program of study approval.

3. Draft an implementation plan and prepare to meet with the program advisory committee:
The draft implementation plan should include an outline of the CTE program of study course sequence (secondary and post-secondary), technical knowledge and skills, potential frameworks for curriculum and assessment development, a timeline for implementation, a plan for sustainability, and a model of evaluation. Additionally, the LEA should begin identifying the training needs for instructional staff, school counselors, and school administrators as well as budgetary needs and potential funding sources. The LEA should also identify an instructional space. Throughout the planning process, the LEA should document how it plans to identify and engage the program advisory committee and what technical assistance is needed to implement the instructional model.

Prior to convening the program advisory committee, the LEA should craft a clear outline of the committee purpose, roles and responsibilities, as well as a meeting schedule and potential agenda items for each interaction. This work will inform how the program advisory committee is staffed.
and what stakeholder groups are represented. The program advisory committee should be engaged and supportive as the LEA progresses from a draft implementation plan to finalizing the Delaware CTE Program of Study Application and then submitting the application for approval through the DDOE.

The Delaware Department of Education, CTE & STEM education associates are available to assist LEAs in identifying and analyzing labor market data, identifying state and national resources for local CTE program of study development, and planning for program advisory committee engagement. If the LEA would like technical assistance please contact the CTE & STEM policy advisor (see Appendix B).

**B. Form a Program Advisory Committee**

Once a strong foundation has been established and the LEA requires external feedback, the LEA shall convene a program advisory committee. LEAs should participate in the following action steps to ensure that the program advisory committee helps to design, implement, and support the CTE program of study.

1. **Staff the program advisory committee:**
   Representatives on the program advisory committee should include, but are not limited to: CTE and academic teachers, CTE/curriculum district coordinators, school counselors, business and industry representatives, labor representatives, post-secondary partners (two- and four-year), parents, and students. The group should be reflective of the community and account for broad stakeholder engagement.

2. **Acclimate the program advisory committee:**
   The program advisory committee should be aware of the draft implementation plan and labor market analysis as well as policies and procedures within the LEA or partnering institution(s) of higher education which might accelerate or delay the implementation of the CTE program of study. This can include established practices that support or prohibit access to early college (articulation, dual enrollment, advanced standing, AP) and early career (work-based learning, internships, cooperative education, apprenticeship) opportunities for students. These efforts should be considered in the early stages of development to assure that every student can seamlessly transition to high skill, high demand, high wage employment and post-secondary placement. Potential barriers can be overcome by ensuring that secondary, post-secondary, and industry partners work together to design and implement the proposed program of study.

3. **Evaluate the role of the program advisory committee:**
   The role of the program advisory committee and their work will change as the LEA moves through the development, implementation, and continuous improvement phases. The LEA should develop a charge that is specific to the immediate needs of the LEA. The charge should be revisited annually or more frequently based on the continued needs of the LEA, the school, the teacher(s), or the students. As the program of study evolves, the program advisory committee should build observable and measureable outcomes, celebrate success, and continue to create early college and early career opportunities for every student.
C. Design a Rigorous and Relevant Program of Study

Delaware CTE programs of study integrate academic and career & technical education so that all students are prepared for career success and post-secondary education. CTE programs of study must include a sequence of academic and technical coursework that bridges secondary and post-secondary education as well as opportunities to obtain industry recognized credentials and college credit. Additionally, CTE programs of study provide opportunities for students to participate in career counseling, work-based learning experiences, service learning, and other leadership development activities including Career and Technical Student Organizations (CTSOs) that extend beyond the school day or instructional program. LEAs shall participate in the following action steps when developing a CTE program of study.

1. **Review the Career Clusters Framework® to identify the appropriate Career Cluster and Pathway:**
   The LEA and program advisory committee members should be knowledgeable of the Career Clusters Framework® and organizational structure for classifying CTE programs of study. Career clusters provide an occupational framework to offer industry-focused, student-centered, and performance-driven learning. Students should be exposed to a broad set of skills that are transferable within the industry sector or Career Cluster, while also acquiring more specific workplace skills and knowledge through the identified Career Pathway. Further, by identifying the appropriate Career Cluster and Career Pathway, the LEA is defining how the program of study and course level data will be collected and reported, how the instructional model fits within the statewide system of career preparation, and the related LMI that will be used to inform program development and improvement.

   For more information on knowledge and skill statements specific to each Career Cluster, please visit: National Association of State Directors of Career Technical Education Consortium's website (see Appendix A). The title and codes for each Career Cluster and Career Pathway as it relates to a Delaware program of study can be found in the Career Clusters® Framework - Delaware Program of Study Crosswalk on the DDOE website (see Appendix A). The identification of the Career Cluster and Pathway as well as the program of study title must be provided within the Delaware CTE Program of Study Application.

2. **Develop a plan for the instructional space:**
   The size, shape, and arrangement of a facility, as well as location of passageways, storage, and work areas are important factors in establishing a safe working environment. To assure safety and quality education, the number of students that can be safely placed in a CTE program of study will vary based on the program requirements and activities. Student enrollment and the number of students to be placed in the instructional space should be discussed in the planning phase. A draft of the facilities design (that includes areas needed for classwork, skill development with required equipment, and use of technology) should be developed to assure proper program operation, equal access, and safety for all students. All CTE programs must adhere to the guidelines set forth in Delaware’s Safety First: Safe Instructional Practices in the Classroom and Laboratory (see Appendix A).

3. **Identify academic and technical skill standards:**
   The program advisory committee must review the academic, technical, and workplace skills and
knowledge required for entry into a related post-secondary program and career field. It is critical that secondary and post-secondary educators work with business stakeholders to clarify the knowledge and skill proficiencies that all students will master in the CTE program of study. Additionally, the committee will review the technical skill standards most closely aligned with the CTE program of study to ensure relevance and accuracy. These standards will serve as the foundation for curriculum and assessment development and the identification of appropriate instructional strategies. The identification of academic and technical standards and how those standards were applied to the development of the program of study must be provided within the Delaware CTE Program of Study Application.

4. Identify early career and college opportunities as well as technical skill attainment measures: Approved CTE programs of study provide all students with the opportunity to participate in early career opportunities and earn post-secondary credit while still in high school. Options for students to participate in early career opportunities must be outlined within the Delaware CTE Program of Study Application. These experiences may include, but are not limited to, supervised work-based learning activities such as experiential education, job shadowing, internships, cooperative education, and/or industry-mentored projects. Each activity should be designed to enrich and advance school-based instruction and provide students with the opportunity to demonstrate career readiness.

Options for students to participate in early college credit including advanced placement, dual enrollment, transcripted and/or articulated credit, and pre-apprenticeship, must be outlined within the Delaware CTE Program of Study Application. In developing CTE program of study course sequences, secondary and post-secondary educators should also identify opportunities for students to pursue two- and four-year degrees and certification programs through the development of articulation and/or dual enrollment agreements. All established agreements should be attached to the Delaware CTE Program of Study Application.

Technical skill attainment is a measure of technical knowledge and skill proficiency developed during the CTE program of study that leads to an industry recognized credential, certificate, or license which holds value at the professional level, post-secondary level, or in an associate or baccalaureate degree program. Where available and appropriate, CTE programs of study shall offer students the opportunity to earn an industry-recognized certification or license to demonstrate career readiness and provide students with a credential to seek competitive employment. Both industry certification or licensure and early college credit are considered measures of technical skill attainment at the secondary level. The measure(s) for technical skill attainment must be identified within the Delaware CTE Program of Study Application.

5. Develop program and course descriptions as well as end-of-program and course assessments: In partnership with the program advisory committee the LEA will develop a program of study overview that broadly describes the expectations placed upon students. The overview should describe prerequisite requirements as well as knowledge and skills students will acquire in the program of study. The overview will serve as a marketing tool for students, parents, and the community.
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The program advisory committee should also help to identify the most appropriate end-of-program assessment(s) to document student achievement. This may include an industry recognized licensure or certification exam. In addition, the LEA will develop course descriptions and consult with the program advisory committee to identify appropriate end-of-course assessments which will serve as benchmarks for student learning. These benchmarks or culminating experiences help to document student attainment of knowledge and skills identified for each course. Additional assessments may include projects, written and performance-based exams, or assessments leading to an industry recognized credential or licensure. Additionally, both parties should identify opportunities within the CTE program of study to provide students with industry-mentored experiences and assignments. The program and course descriptions and the assessment outline must be provided within the Delaware CTE Program of Study Application.

6. Develop curriculum that includes both technical and academic content:
Secondary and post-secondary academic and CTE teachers will develop the curriculum and course sequences for the purpose of both vertical and horizontal curriculum alignment. Vertical alignment builds upon pre-existing knowledge from one grade level to the next, transitioning from middle school to high school, to post-secondary education, and the workforce. This alignment should include determining where each specific knowledge and skill will be incorporated in the individual course sequence.

Horizontal alignment refers to teaching certain knowledge and skills at the same grade level of related content in other subject areas. This includes content from academic as well as CTE coursework. Curriculum can be adopted, adapted, or developed in accordance with guidance from the program advisory committee. Curriculum should be based on the most relevant academic (Common Core State Standards and Next Generation Science Standards), technical, and employability standards available and should encourage innovative teaching and learning methods that includes the use of technology, inquiry and problem-based approaches, higher-order thinking skills, and competency-based learning. The method of curriculum development must be defined within the Delaware CTE Program of Study Application.

7. Identify value-added opportunities for students:
All CTE programs of study provide students with the opportunity to participate in early career opportunities and earn post-secondary credit while enrolled in high school. As a result, students demonstrate technical skill attainment by acquiring an industry recognized certification (including a state license or certification) and early college credit that can be applied to the completion of a program of study via a post-secondary degree, certificate, or apprenticeship program. While this baseline expectation is consistent across all CTE programs of study, the opportunity to extend and accelerate learning must be established. This includes building opportunities for high school students to engage employers and continue their education beyond the CTE program.

These opportunities will typically take place during the student’s senior year and will reflect post-secondary goals in the form of related dual enrollment and advanced coursework as well as career aspirations in the form of cooperative learning experiences and structured internships. Students should be encouraged to participate in these opportunities through the student success plan (SSP).
and measures to track student participation and success should be developed and used to inform program improvement. While not all CTE students will take advantage of these opportunities, transition services and options to extend early college and early career experiences should be planned for and documented in the Delaware CTE Program of Study Application.

8. Identify POS teacher certification requirements:
CTE program of study educators must hold both a Delaware teaching license and at least one certificate. The license [14 DE Admin. Code 1510] authorizes an educator to work in a LEA. The certificate identifies the area for which the educator is authorized to practice [14 DE Admin. Code 1505]. CTE certificates are issued in the areas of agriscience [14 DE Admin. Code 1551], family and consumer sciences [14 DE Admin. Code 1554], marketing education [14 DE Admin. Code 1555], and technology education [14 DE Admin. Code 1557]. In addition, a skilled and technical sciences certificate may be issued in a specific career area for a CTE teacher candidate with related work experience [14 DE Admin. Code 1559]. The DDOE’s Delaware Educator Data System (DEEDS) portal provides information regarding all CTE teacher licensure and certification requirements (see Appendix A).

Certification requirements specific to approved programs of study are available through the DDOE CTE Teacher Certification Requirements document and include related work experience as defined through the US Bureau of Labor Statistics (BLS) (see Appendix A) and professional licensure or certification requirements. Appropriate certification options, work experience, and credentials must be defined within the Delaware CTE Program of Study Application.

9. Identify related Career and Technical Student Organizations:
Co-curricular Career and Technical Student Organizations (CTSOs) provide students with opportunities to participate in career development experiences, demonstrate and further refine their technical skills, and exhibit leadership. The program advisory committee is a valuable resource for supporting student organization activities through participation at both the local and state levels. Students enrolled in CTE programs of study are encouraged to participate in CTSOs and other professional associations or organizations that relate to the program of study. Measures to track student participation and success should be developed and used to inform program improvement. The identification of a CTSO that supports the program must be defined within the Delaware CTE Program of Study Application.

10. Complete the program of study matrix:
The Program of Study Matrix (see Appendix A) defines a planned, sequential program that aligns academic and technical coursework with the CTE program of study including a capstone or culminating experience such as an industry-mentored project and/or work-based learning experience. The matrix also helps to demonstrate the connection between secondary and post-secondary education and how students will progress within the program of study (spanning secondary and post-secondary). The appropriate CTSO affiliation, industry certification and licensure options, as well as opportunities for early college credit should also be identified. A list of potential career options and related post-secondary education requirements shall be provided to help students determine their path to continuing education and career success. The completed
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*Program of Study Matrix* should be attached to the *Delaware CTE Program of Study Application.*

11. **Design an evaluation plan that promotes continuous program improvement:**
   The program advisory committee and LEA will partner to design and administer an evaluation plan to continuously improve the CTE program of study. This includes collecting relevant data which is essential to the success of the CTE program of study. Data should be disaggregated and analyzed at the school and program level to inform programmatic decisions. Data from secondary, post-secondary, and employer stakeholders should be included in the overall evaluation plan. All state-model and local CTE programs of study will be monitored on a five-year cycle to ensure continuous program improvement.

Once the planning phase is complete and the related information is included in the *Delaware CTE Program of Study Application*, the document will be submitted to the DDOE for approval. The Delaware Department of Education, CTE & STEM education associates are available to assist LEAs in developing local CTE programs of study. If the LEA would like technical assistance please contact the CTE & STEM policy advisor (see Appendix B).

**PHASE 2: IMPLEMENTATION**

The culture of the LEA, the school building, and the community should be reflected in the CTE program of study. Instruction should be interactive and highly engaging as well as promote the opportunity for students to apply knowledge, develop career ready practices, and engage in work that is authentic. Further, CTE programs of study are designed to serve all students and help every child seek early college and early career experiences. Professional development should be provided to each teacher that is specific to the program content and related pedagogy. Additionally, professional development should be provided for school counselors and school administrators to better understand CTE programs of study and the related instructional model.

**A. Establish Career Readiness as Part of the School Culture**

Once a program of study is designed, vetted by all stakeholders, and approved by the DDOE, the LEA should work to align the program to existing school policy/practice and identifying potential students. In order for a CTE program of study to be successful, high expectations need to be placed on the school-based staff to provide academic, technical, and workplace skills to all students regardless of gender, race, national origin, or socio-economic status. In addition, there needs to be a model of support for academic and career counseling. This work should be a reflection of the students’ career aspirations and should be supported by both the instructional staff and school counseling office. School administrators will need to work with both the instructional staff and school counseling office to ensure that course scheduling matrices do not eliminate potential student enrollment and also ensure that students can move through the CTE program at an accelerated pace. Additional support must also be provided by the community and program advisory committee.

CTE programs of study are designed for students of all genders and backgrounds and are a critical component of career and college readiness. Aligning this expectation to the school culture is essential for program success. Teachers are encouraged to work with school counselors and administrators to
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review program of study and course level data to ensure that all students have access to early college and early career experiences. The Perkins Core Indicators of Performance can help to serve as a baseline for program excellence. Supporting data collected at the LEA or school level may also be analyzed to inform instruction and programmatic decisions. This work should be tied to the program evaluation model and building a culture of continuous program improvement.

School staff should work together to provide career and academic counseling that reflects the needs of all children. CTE programs of study should be an integral part of each child’s student success plan (SSP); a requirement for Delaware students grades 8-12 [14 DE Admin. Code 505] (see Appendix A). The SSP reflects the academic and career interests of students and defines an educational path for academic and technical courses, early college credit, work-based learning experiences, and extracurricular opportunities needed to prepare students for entry into post-secondary education and the workforce. The SSP integrates the program of study into the school culture and represents a fluid, yet sequential plan based on a unique set of interests, needs, education and career goals, as well as graduation requirements for each student. Work-based learning experiences are an integral part of the program of study and should be reflected through the SSP process. Further, the plan goes beyond the school experience by connecting students with the larger community and is guided by an advisement process that includes school counselors and school staff, parents or guardians/caregivers, and career coaches. As appropriate, program advisory committee members can participate in the SSP process to help identify related work-based learning opportunities and provide career coaching.

By establishing rigorous and relevant CTE programs of study, LEAs are providing every student with the opportunity to succeed. When academic, technical, and workplace skills are developed in an authentic learning environment, students experience learning in a highly interactive and authentic environment. Access to high quality CTE programs of study must be assured for all students through an educational system that aligns programs, curricula, and instructional services across disciplines. CTE programs of study are an integral part of every student’s success plan (SSP) and ensure that they graduate from high school prepared for post-secondary education and employment in high skill, high demand, high wage careers.

**B. Apply Effective Instructional Practices**

The teacher is the single most important factor in student achievement. For teachers to be effective they must continually expand their knowledge and skills to implement educational best practices that exemplify both rigor and relevance. Rigor is inserted into the curriculum by creating opportunities for students to apply content and problem-solving skills through integration and active learning. Relevance reflects opportunities for communication and teamwork as well as project-based instruction that focus on real-world issues.

Instruction should be specific to the grade level and provide the foundation for student achievement. Aligning CTE curriculum to the Common Core State Standards and Next Generation Science Standards will engage and prompt students to transfer and connect ideas and concepts across disciplines. Further, effective instructional practices include differentiating instruction to meet the needs of all students and provide active learning opportunities for students to internalize career-ready practices and develop skill specific tasks. Opportunities for students to participate in work-based learning
should be developed and included throughout the program of study. This includes students engaging in career awareness, exploration, and immersion activities that match their career aspirations and are reflective of the desired occupation. The integration of instruction and support from the program advisory committee or area employers is essential to delivering meaningful work-based learning experiences. Additionally, opportunities for students to seek paid work experience during the summer months or the school year are essential to better connect knowledge and skill development with application and experience.

Career and Technical Student Organizations (CTSOs) play an important part in preparing students to become productive citizens and to assume roles of leadership in their communities. These organizations provide a unique program that connects career training and leadership development within a framework that inspires and recognizes student achievement. CTSOs connect curricular and co-curricular experiences and promote a growth mindset. Students who possess a growth mindset show greater motivation in school, receive better grades, and are more likely to succeed. When effective instructional practices are coupled with a growth mindset, students become enthusiastic and persistent learners who take charge of their own success. When both students and educators have a growth mindset, they understand that intelligence can be developed.

C. Provide Professional Development to All Stakeholders

In order to be effective, teachers need to be engaged in high quality and on-going professional learning. Professional learning for educators must include opportunities to work with business and industry partners as well as post-secondary partners to expand and reinforce content and pedagogy. Professional learning for school administrators and school counselors should also be developed to reflect the needs of the CTE program of study and the program advisory committee.

Learning Forward, formerly known as the National Staff Development Council has adopted Standards for Professional Learning that connect professional learning to student achievement. The standards acknowledge that all educators have a professional responsibility to learn and grow to better assist students. The Standards for Professional Learning have been adopted as Delaware’s Professional Development Standards, [14 DE Admin. Code 1598] (see Appendix A) and serve as the foundation for professional development for all Delaware educators as well as indicators that guide the facilitation, implementation, and evaluation of professional learning. The standards make explicit that the purpose of professional learning for educators is to develop the knowledge, skills, practices, and dispositions they need to help students perform at higher levels. These standards should be taken into consideration when building and evaluating professional learning opportunities for CTE programs.

A direct relationship exists between professional learning and student achievement. When professional learning is standards-based, it has a greater potential to change what educators know, are able to do, and believe. When educators’ knowledge, skills, and dispositions change, they have a broader collection of effective strategies to use and apply to meet performance expectations and student learning needs. When educator practice improves, students have a greater likelihood of achieving results.

Statewide professional development opportunities are essential for all Delaware CTE educators to
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further develop the knowledge, skills, and instructional practices needed to improve student performance. The DDOE is committed to growing the professional capacity of CTE teachers, school counselors, and LEA administrators by investing in and providing resources for high quality, program and course specific professional learning as well as targeted training for school administrators and counselors. Professional learning opportunities for teachers are available for all state-model CTE programs of study and reflect course and program level instructional strategies and techniques. Support for school administrators is available through the CTE Cadre which meets three to four times annually to collaboratively develop public policy and support career readiness. School administrators who are new to CTE are invited to attend training specific to the administration of Perkins and CTE and may complete a variety of online support tools specific to program administration and funding. School counselors and building administrators are invited to attend the annual college and career readiness conference sponsored by the DDOE and may request customized technical assistance from the DDOE staff defined below.

The Delaware Department of Education, CTE & STEM education associates are available to assist LEAs in working to establish career readiness as part of a school culture, supporting teachers and administrators, as well as helping to build professional learning models. If the LEA would like technical assistance please contact the CTE & STEM policy advisor (see Appendix B).

PHASE 3: CONTINUOUS IMPROVEMENT

An effective CTE program of study is centered on a model of evaluation that creates opportunities for all stakeholders to engage in the process of continuous program improvement. Program evaluation should be conducted on a semi-annual or annual basis and focus on defined metrics with established targets throughout the five-year program improvement cycle.

A. Build a Model of Evaluation

The program advisory committee should be involved in the design of a program evaluation and accountability plan. This plan should be designed with the end-in-mind and focus on the elements that accelerate student achievement within the program of study model. Further, this plan should be student-centered and focus on creating efficient practices that lead students to high skill, high demand, high wage career opportunities through early college and early career experiences.

The model of evaluation should define the required data elements for program improvement, a timeline for each evaluation activity, the individuals responsible for collecting/analyzing the data, checkpoints where the program of study team will review and reflect on the data, and feedback loops that promote continuous program improvement. LEA staff are encouraged to move beyond values required for base compliance and to identify measures that reflect additional student need. The following elements are reflective of the DDOE’s priorities for CTE and should be included in the LEA plan for the evaluation of CTE programs of study:

1. Career pathways at the LEA level include Delaware CTE programs of study and program quality is ensured by an active program advisory committee;
2. CTE programs of study add value for students (technical skill attainment) and ensure students are
SECTION II – DEVELOPMENT, IMPLEMENTATION, AND CONTINUOUS IMPROVEMENT

able to transition into post-secondary education and a career;
3. All students have access to Delaware CTE programs of study as well as career and support services that facilitate a successful transition between the learning years (middle to high school and to post-secondary education);
4. Collaboration occurs amongst school faculty (school counselors, academic teachers, CTE teachers, and school administrators) to support a career and college ready culture and there are established professional learning experiences;
5. CTE program of study improvement is informed by student achievement, accurate data collection, and comprehensive data analysis (LEA, school, and program of study); and
6. Effective grant and fiscal management.

B. Create a Culture of Continuous Program Improvement
The DDOE is committed to building a model of shared accountability and success by supporting state-model and local CTE programs of study. Program innovation will be incentivized through state and federal funding streams and a commitment from the DDOE to provide timely technical assistance and quality professional learning opportunities.

Five year plans for program implementation, evaluation, and continuous improvement should be developed and monitored by the LEA and the program advisory committee. Evaluation and accountability data should be shared with all stakeholders. Further, data should be analyzed to determine what changes or improvements are needed in the design and implementation of the CTE program of study. Data should also be used to inform next steps related to program improvement and professional development opportunities. A cycle of continuous improvement should be established by the program advisory committee that reflects the needs of the LEA, the school, the teacher(s), the students, and the program advisory committee. The LEA should be aggressive in defining program metrics and performance targets as well as when those targets will be measured throughout the five-year plan.

The Delaware Department of Education, CTE & STEM education associates are available to assist LEAs in building a model of evaluation and engaging in continuous program improvement. If the LEA would like technical assistance please contact the CTE & STEM policy advisor (see Appendix B).

CTE Policy and Procedures Summary:
The Delaware Department of Education is committed to assuring that every Delaware student is career and college ready. Career and Technical Education (CTE) helps our state to align economic development initiatives with student achievement and career advancement. CTE is developing Delaware’s most valuable resource—its people, helping them gain the skills, technical knowledge, academic foundation, and work experience required for employment in high skill, high demand, high wage careers. CTE is leading change, transforming expectations, and making a difference for students, our educational system, and our employers.
SECTION III - PROGRAM OF STUDY APPLICATION PROCEDURES

Completing a Delaware CTE Program of Study Application

A Local Education Agency (LEA) seeking approval for a Career and Technical Education (CTE) program of study will submit the Delaware CTE Program of Study Application (see Appendix C) for the following:

1. Adoption of a Delaware state-model CTE program of study; or
2. Development of a local CTE program of study.

A LEA seeking approval to amend a previously approved CTE program of study will submit the Delaware CTE Program of Study Amendment Request (see Appendix D). A LEA seeking approval for a CTE middle school course articulated with a CTE high school program of study will submit the Delaware CTE Middle School Application (see Appendix E).

The Delaware Department of Education, CTE & STEM office will provide leadership and technical assistance to LEA representatives to develop and amend CTE program of study applications. The following procedures should be followed for submission:

1. Initial contact and technical assistance:
   The LEA leader(s) will contact the DDOE CTE policy advisor (see Appendix B) to begin the CTE program of study development process. The CTE policy advisor will work with a subject matter expert to provide technical assistance to the LEA as needed.

2a. Adoption of a Delaware state-model CTE program of study:
   Copies of all applications for a Delaware state-model CTE program of study (see Appendix A) are available through the DDOE website. Each application is consistent with the required components of a local CTE program of study and must be implemented without modification. The LEA will submit the state-model CTE program of study application with the appropriate signatures and complete the following sections of the proposal:

   - **Labor Market Information (LMI) Review:**
     Review, update (if needed), and attach the Labor Market Information (LMI) Review for the specific program of study. The LEA should use this information to engage their program advisory committee and as background information to better understand employment and the prospective job market. For more information, see Section II: Collect, review, and analyze local, state, and regional labor market information, (p. 9).

   - **Program Advisory Committee Members:**
     List all CTE program advisory committee members which should include, but is not limited to: CTE and academic teachers, CTE/curriculum district coordinators, school counselors, business and industry representatives, labor representatives, and post-secondary partners. For more information, see Section II: Form a program advisory committee, (p. 11).

   - **Articulation/Dual Enrollment Agreement(s):**
     Review, update (if needed), and attach copies of all Memorandum of Understanding that serve as articulation/dual enrollment agreements for the specific program of study. Options for early
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College credit can include advanced placement, dual enrollment, transcripted and/or articulated credit, and pre-apprenticeship. For more information, see Section II: Identify early career and college opportunities as well as technical skill attainment measures, (p. 13).

- **Value-added Opportunities:**
  Describe extended early career and early college opportunities available during the student’s senior year. Advanced coursework, transition/support services, cooperative learning experiences, and additional dual enrollment options should be documented. For more information, see Section II: Identify value-added opportunities for students, (p. 14).

- **Program of Study Matrix:**
  Update and attach the Program of Study Matrix to demonstrate the school’s alignment of academic and technical courses that culminate in an early career and/or early college experience. Identify appropriate certification and licensure options, opportunities for obtaining early college credit (courses with articulated or dual enrollment credit agreements should be appropriately designated within the matrix), the post-secondary program sequence, and potential career options. For more information, see Section II: Complete the program of study matrix, (p. 15).

2b. **Development of a local CTE program of study:**
The Delaware CTE Program of Study Application for local CTE programs of study (see Appendix C) reflects the requirements for CTE program of study approval which is described in detail in Section II, Career & Technical Education Program of Study Approval and Evaluation Overview, (pages 9-16). The local application for a CTE program of study shall include the necessary detail to effectively evaluate the program of study. Incomplete applications or applications that do not adequately reflect the expectations for all CTE programs of study will not be approved.

2c. **Amending a CTE program of study:**
Amendments to previously approved CTE state-model and local programs of study should be submitted through a Delaware CTE Program of Study Amendment Request (see Appendix D). Rationale for the amendment must be included which describes the need for the proposed change and anticipated student outcomes. Updates must be specific to program of study and documented in the amendment request. The amendment form shall include the necessary detail to effectively evaluate the request. Incomplete amendment requests or those that do not adequately reflect the expectations for all CTE programs of study will not be approved.

2d. **Development of a middle school CTE course:**
The Delaware CTE Middle School Application (see Appendix E) includes related academic and technical skill standards, the course description, the end-of-course assessment(s), course curriculum, and the related CTSO as described in detail in Section II, Career & Technical Education Program of Study Approval and Evaluation Overview, Phase II (pages 9-16). In addition, the application must detail how the middle school course is aligned with one or more approved CTE programs of study at the high school level, as well as how the school culture promotes career exploration and opportunities to learn and apply both academic and technical skills. The local application for a CTE middle school course shall include the necessary detail to effectively evaluate the course and
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articulated program of study. Incomplete applications or applications that do not adequately reflect the expectations for all CTE middle school courses will not be approved.

3. Submitting the program of study proposal:
The completed Delaware CTE Program of Study Application, Delaware CTE Middle School Application, or Delaware CTE Program of Study Amendment Request must be submitted with the required attachments and appropriate signatures by November 30 of the school year prior to program implementation to:

CTE.STEM@doe.k12.de.us

Submitting a CTE Program of Study Application for Multiple Middle or High Schools
This section applies to LEAs with multiple middle or high schools. A single application may be submitted by the LEA to implement a CTE program of study at multiple middle or high schools. However, if the LEA chooses to submit a program of study application for multiple schools, the application must clearly identify each middle or high school and delineate how the course or program of study will be implemented at each school site. This includes identifying middle school alignment with high school programs or early career and early college opportunities specific to each high school. Please note that in the application each school must independently demonstrate the expectations for CTE approval. If a single school does not demonstrate the established expectations or the application does not include the required detail for each school, the approval process for all schools will be delayed and/or the application will not be approved.

Receiving Notification of Approval for a CTE Program of Study
Proposals will be evaluated through the CTE program of study approval process and LEAs will be notified of the approval status by January 15 of the school year prior to program implementation.

Checklist for CTE Program of Study Approval
The following checklist can be used as a process tool for LEAs to develop and submit the Delaware CTE Program of Study Application for state-model or local CTE programs of study.

Components of the CTE Program of Study Application:
☐ List program advisory committee members;
☐ Certify that a labor market needs analysis has been completed;
☐ List the academic, technical, and workplace standards used to develop the program of study;
☐ Identify early career and early college opportunities, industry-recognized certifications and/or licenses, and the technical skill attainment measures for the program of study;
☐ Develop the program of study overview, identify end-of-program assessment(s), and complete all course level details;
☐ Identify the method of technical and academic curriculum development;
☐ List the extended early career and college credit opportunities available during the student’s senior year;
☐ List teacher certification requirements;
☐ Indicate the Career and Technical Student Organization (CTSO); and
SECTION III - PROGRAM OF STUDY APPLICATION PROCEDURES

☐ Complete the Program of Study Matrix.

Required Attachments to the CTE Program of Study Application:
☐ Attach the Labor Market Information (LMI) Review document;
☐ Attach all Memorandum of Understanding for articulation/dual enrollment; and
☐ Attach the Program of Study Matrix.

Checklist for CTE Program of Study Amendment Approval
The following checklist can be used as a process tool for LEAs to develop and submit the Delaware CTE Program of Study Amendment Application for state-model or local CTE programs of study.

Components of the CTE Program of Study Amendment Application (as applicable):
☐ Indicate changes in the academic, technical, or workplace standards used to develop the program of study;
☐ List additional early career and early college opportunities, industry-recognized certifications and/or licenses, or technical skill attainment measures for the program of study;
☐ Identify changes in the program of study overview, end-of-program assessment(s), or course level details; and
☐ Update the Program of Study Matrix.

Required Attachments to the CTE Program of Study Amendment Application:
☐ Attach the original Delaware CTE Program of Study Application;
☐ Attach updated Memorandum of Understanding, as applicable; and
☐ Attach the updated Program of Study Matrix, as applicable.

Checklist for CTE Middle School Approval
The following checklist can be used as a process tool for LEAs to develop and submit the Delaware CTE Middle School Application.

Components of the CTE Middle School Application:
☐ List the academic, technical, and workplace standards used to develop the program of study;
☐ Complete all course level details;
☐ Identify the method of technical and academic curriculum development;
☐ List teacher certification requirements;
☐ Describe program of study alignment and opportunities for career exploration;
☐ Indicate the Career and Technical Student Organization (CTSO); and
☐ Complete the Middle School Program of Study Matrix.

Required Attachments to the CTE Program of Study Application:
☐ Attach the Program of Study Matrix.

Timeline for CTE Program of Study Approval
SECTION III - PROGRAM OF STUDY APPLICATION PROCEDURES

The following timeline can be used as a process tool for LEAs to develop and submit the Delaware CTE Program of Study Application for a state-model or local CTE programs of study.
APPENDIX A

URL REFERENCE LIST

http://regulations.delaware.gov/AdminCode/title14/500/505

http://regulations.delaware.gov/AdminCode/title14/800/885

http://regulations.delaware.gov/AdminCode/title14/1500/1505.shtml#TopOfPage

[14 DE Admin. Code 1510] – Issuance of Initial License
http://regulations.delaware.gov/AdminCode/title14/1500/1510.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1550.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1551.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1554.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1557.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1559.shtml#TopOfPage

http://regulations.delaware.gov/AdminCode/title14/1500/1598

Career Clusters® Framework
http://www.careertech.org/Career-Clusters

Career Clusters® Framework – Delaware Program of Study Crosswalk
http://www.doe.k12.de.us/domain/211

Delaware Department of Labor – Occupations and Industry Projections
http://www.delawareworks.com/oolmi/Information/LMIData/Projections.aspx
APPENDIX A

Delaware 2022 Occupation and Industry Projections

Delaware Educator Data System (DEEDS)
http://deeds.doe.k12.de.us/

Economic Development and Employer Planning System (EDEPS)
http://www.edeps.org/

Labor Market Information (LMI) Instructions & Guidance
http://www.doe.k12.de.us/Page/1605

Labor Market Information (LMI) Review
http://www.doe.k12.de.us/Page/1605

Program of Study Matrix
http://dedoe.schoolwires.net/Page/435

Safety First: Safe Instructional Practices in the Classroom and Laboratory

State-Model CTE Programs of Study
http://dedoe.schoolwires.net/Page/2016

US Bureau of Labor Statistics (BLS)
http://www.bls.gov/
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<th>Name</th>
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<tbody>
<tr>
<td>Luke Rhine</td>
<td>Director</td>
<td><a href="mailto:luke.rhine@doe.k12.de.us">luke.rhine@doe.k12.de.us</a></td>
</tr>
<tr>
<td>Geri Donahue</td>
<td>Administrative Secretary</td>
<td><a href="mailto:geri.donahue@doe.k12.de.us">geri.donahue@doe.k12.de.us</a></td>
</tr>
<tr>
<td>Melvin D’Souza, Ph.D.</td>
<td>Education Associate</td>
<td><a href="mailto:melvin.dsouza@doe.k12.de.us">melvin.dsouza@doe.k12.de.us</a></td>
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<tr>
<td>Peggy Enslen, RN, Ed.D.</td>
<td>Education Associate</td>
<td><a href="mailto:peggy.enslen@doe.k12.de.us">peggy.enslen@doe.k12.de.us</a></td>
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<tr>
<td>Mike Fitzgerald</td>
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<td><a href="mailto:mike.fitzgerald@doe.k12.de.us">mike.fitzgerald@doe.k12.de.us</a></td>
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<tr>
<td>Bart Gill</td>
<td>Education Associate</td>
<td><a href="mailto:bart.gill@doe.k12.de.us">bart.gill@doe.k12.de.us</a></td>
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<tr>
<td>Bliss Holcomb</td>
<td>Administrative Support</td>
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<tr>
<td>Rita Hovermale</td>
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<td><a href="mailto:rita.hovermale@doe.k12.de.us">rita.hovermale@doe.k12.de.us</a></td>
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<tr>
<td>April McCrae</td>
<td>Education Associate</td>
<td><a href="mailto:april.mccrae@doe.k12.de.us">april.mccrae@doe.k12.de.us</a></td>
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<tr>
<td>Corinne Stayton</td>
<td>Administrative Support</td>
<td><a href="mailto:anna.stayton@doe.k12.de.us">anna.stayton@doe.k12.de.us</a></td>
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<tr>
<td>Lisa Stoner-Torbert</td>
<td>Education Associate</td>
<td><a href="mailto:lisa.stoner-torbert@doe.k12.de.us">lisa.stoner-torbert@doe.k12.de.us</a></td>
</tr>
<tr>
<td>Lisa Wilson</td>
<td>Education Associate</td>
<td><a href="mailto:lisa.wilson@doe.k12.de.us">lisa.wilson@doe.k12.de.us</a></td>
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### LOCAL EDUCATION AGENCY INFORMATION

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<tr>
<th>Local Education Agency (LEA):</th>
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<th>School(s) where the Program of Study will be Located:</th>
<th>Program of Study Start Date:</th>
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<tr>
<th>Career Cluster Title:</th>
<th>Career Pathway Title:</th>
<th>Program of Study Title:</th>
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#### CTE Program of Study Course Titles & Sequence:
1. 
2. 
3. 

#### CTE Program of Study Request:
- [ ] State-model CTE Program of Study
- [ ] Local CTE Program of Study

### ASSURANCES & SIGNATURES

CTE Program of Study approval and funding is contingent upon the following assurances:

1. The LEA will comply with Delaware Administrative Code, 14 DE Admin. 525, Requirements for Career and Technical Education Programs and the Delaware State Plan for the Carl D. Perkins Career and Technical Education Act of 2006;
2. The LEA will submit CTE program data as required by the Delaware Department of Education;
3. All teachers are certified in the appropriate CTE area and participate in program specific professional learning;
4. The LEA will convene and engage a program advisory committee for the purposes of program development, implementation, and continuous improvement;
5. All students have equal access to the program of study as well as early career/early college options;
6. Career and Technical Student Organizations are integral components of the program of study;
7. The LEA will maintain safe facilities and equipment aligned with the program of study goals; and
8. A process for continuous improvement has been established, which includes a model of evaluation and program improvement.

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<th>LEA CTE Coordinator Signature:</th>
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<tr>
<th>LEA Chief School Officer Signature:</th>
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</table>
Complete the list of program advisory committee members. Program of study representatives should include, but are not limited to: CTE and academic teachers, CTE/curriculum district coordinators, school counselors, business and industry representatives, labor representatives, and post-secondary partners. Community stakeholders including parents and students can also be considered. Attach additional information if applicable.

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Representing:
- [ ] Business/Industry
- [ ] Secondary Education
- [ ] Post-Secondary Education
- [ ] Community/Other

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### APPENDIX C

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<tr>
<th>LABOR MARKET DEMAND</th>
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<tbody>
<tr>
<td>Certify that a labor market needs analysis has been completed for the proposed CTE program of study. Attach the Labor Market Information (LMI) Review document.</td>
</tr>
<tr>
<td>Access the Labor Market Information (LMI) Review document (see Appendix A).</td>
</tr>
<tr>
<td>☐ The LEA certifies that regional, state, and local labor market data have been reviewed to assure a demand exists for the POS occupations and that the number of POS completers will not significantly exceed this demand. Department of Labor data are available and/or documented. Supporting evidence of supply and demand is submitted with this proposal.</td>
</tr>
<tr>
<td>☐ No data exist for POS due to a unique labor market demand. Supporting evidence of demand is submitted with this proposal. Evidence may include, but is not limited to: real-time labor market information, documentation of national, regional, state, or local labor trends, or letters from employers or workforce agencies documenting projected employment specific to the Career Cluster and Career Pathway.</td>
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<tr>
<th>ACADEMIC AND TECHNICAL SKILL STANDARDS</th>
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<tr>
<td>List the academic, technical, and workplace skills and knowledge used to develop the program of study.</td>
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<tr>
<td><strong>Title and source of academic standards:</strong></td>
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<tr>
<td><strong>Title and source of technical skill standards:</strong></td>
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<tr>
<td><strong>Title and source of workplace or other skill standards, as applicable:</strong></td>
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<tr>
<th>EARLY CAREER AND EARLY COLLEGE OPPORTUNITIES</th>
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<tr>
<td>Identify CTE program of study early career opportunities, industry-recognized certifications and licenses, options for early college credit, two- and four-year degree and certification program alignment, and the technical skill attainment measures for the program of study. Attach all Memorandum of Understanding that serve as articulation/dual enrollment agreement(s).</td>
</tr>
<tr>
<td>Describe early career opportunities (i.e. work-based learning experiences and industry-mentored projects):</td>
</tr>
<tr>
<td>List industry-recognized certifications and/or licenses, as appropriate (include the partner organization and credential):</td>
</tr>
<tr>
<td>Describe early college credit options (i.e. advanced placement, dual enrollment, transcripted and/or articulated credit, credit by exam, pre-apprenticeship, other) and options for two- and four-year degree and/or certification program alignment (attach articulation/dual enrollment agreement). The partner organization and hours of credit earned should be included, as applicable:</td>
</tr>
</tbody>
</table>
APPENDIX C

List technical skill attainment measures for the program of study (i.e. industry recognized certification or license, advanced placement, dual enrollment, transcripted and/or articulated credit, credit by exam):

- Certification/credentialing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Advanced standing (specify):
- Other (specify):

POS OVERVIEW, COURSE DESCRIPTIONS, END-OF-COURSE, AND PROGRAM ASSESSMENTS

Provide a CTE program of study overview that broadly describes the program and student expectations. Identify end-of-program assessment(s) and opportunities for students to participate in early college and early career experiences. List each course title in the CTE program of study. Provide an overview of each course and define what students should know and be able to demonstrate upon completion of each level. Identify appropriate end-of-course assessment(s).

CTE Program of Study Overview:

End-of-Program Assessment(s):

- Certification/credentialing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Other (specify):

Course title:

Course description (include prerequisites):

Course knowledge and skills (what students will know and be able to do):

End-of-Course Assessment(s):

- Teacher designed assessment
- LEA designed assessment
- Certification/credentialing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Other (specify):

Course title:

Course description (include prerequisites):

Course knowledge and skills (what students will know and be able to do):
### APPENDIX C

#### End-of-Course Assessment(s):
- Teacher designed assessment
- LEA designed assessment
- Certification/credentiaing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Other (specify):

#### Course title:

#### Course description (include prerequisites):

#### Course knowledge and skills (what students will know and be able to do):

#### End-of-Course Assessment(s):
- Teacher designed assessment
- LEA designed assessment
- Certification/credentiaing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Other (specify):

## PROGRAM OF STUDY CURRICULUM

Identify the method of technical and academic curriculum development (adopted, adapted, or developed in accordance with guidance from the program advisory committee).

**POS technical and academic curriculum will be:**
- Adopted (specify source):
- Adapted (specify source):
- Developed locally (describe):
- Other (specify):

## TEACHER CERTIFICATION

Provide valid teacher certification(s), candidate experience, pre-requisite and requisite licensure or certification requirement(s) for POS teachers.

**POS teacher requirements include:**
- Teacher certification(s) (list):
- Candidate experience (describe):
- Pre-requisite professional licensure or certification requirement(s) (list):
- Requisite professional licensure or certification requirement(s) (list):
- Other (describe):
APPENDIX C

**VALUE-ADDED OPPORTUNITIES**

List extended early career and college credit opportunities available during the student’s senior year. Document transition services, cooperative learning experiences, additional dual enrollment, or other.

**Opportunities for extended and accelerated learning include:**

- [ ] Cooperative education (describe):
- [ ] Structured internship (describe):
- [ ] Dual enrollment (list):
- [ ] Advanced Placement (list):
- [ ] Transition services (describe):
- [ ] Other (describe):

**CAREER AND TECHNICAL STUDENT ORGANIZATIONS**

Indicate the Career and Technical Student Organization (CTSO) that will be offered by checking the appropriate box.

- [ ] BPA
- [ ] DECA
- [ ] FCCLA
- [ ] FEA
- [ ] FFA
- [ ] HOSA
- [ ] SkillsUSA
- [ ] TSA

**PROGRAM OF STUDY MATRIX**

Complete the program of study matrix to demonstrate the alignment of academic and technical courses, culminating early career and early college experiences. Identify appropriate certification and licensure options, opportunities for obtaining early college credit (courses with articulated or dual enrollment credit agreements should be appropriately designated within the matrix), the post-secondary program sequence, and potential career options. Attach the Program of Study Matrix.

Access the [Program of Study Matrix](#) (see Appendix A).
## DEPARTMENT OF EDUCATION PROGRAM OF STUDY APPROVAL

The following section will be completed by staff from the Delaware Department of Education, CTE & STEM Office and reported to the LEA as part of the CTE program of study approval process.

**Date Delaware CTE Program of Study Application Received:**

<table>
<thead>
<tr>
<th>Local Education Agency (LEA):</th>
<th>Program of Study Start Date:</th>
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<tr>
<td>School(s):</td>
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<table>
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<th>LEA CTE Coordinator Name:</th>
<th>Phone:</th>
<th>E-Mail Address:</th>
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<thead>
<tr>
<th>Career Cluster &amp; Code:</th>
<th>Career Pathway &amp; Code:</th>
<th>Program of Study Title &amp; Code:</th>
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**CTE Program of Study Course Titles, Course Codes, and Funding Levels:**

1. Course Name/Course Code/Funding Level:
2. Course Name/Course Code/Funding Level:
3. Course Name/Course Code/Funding Level:

**CTE Concentrator/Completer Course Titles:**

Concentrator Course:
Completer Course:

**CTE Program of Study Request:**

- [ ] State-model CTE Program of Study
- [ ] Local CTE Program of Study

**CTE Program of Study Attachments:**

- [ ] Labor Market Information (LMI) Review;
- [ ] Articulation/Dual Enrollment Agreement(s); and
- [ ] Program of Study Matrix.

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<tr>
<th>DDOE CTE &amp; STEM Director Signature:</th>
<th>Date:</th>
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<tr>
<th>DDOE Chief Academic Officer Signature:</th>
<th>Date:</th>
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# DELAWARE CTE PROGRAM OF STUDY AMENDMENT REQUEST

## LOCAL EDUCATION AGENCY INFORMATION

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<th>School(s) where the Program of Study is Located:</th>
<th>Program of Study Start Date:</th>
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<tr>
<th>Career Cluster Title:</th>
<th>Career Pathway Title:</th>
<th>Program of Study Title:</th>
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## CTE Program of Study Course Titles & Sequence

1. 
2. 
3.

## CTE Program of Study Amendment Request Rationale:
Describe the need for the amendment, student outcomes, and specific section(s) to be amended.

## AMENDMENT PROCESS

Document updates specific to the impacted program of study amendment request. Attach the original program of study application. Attach an updated program of study matrix and memorandum(s) of understanding, as applicable.

## SIGNATURES

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<td>LEA Chief School Officer Signature:</td>
<td>Date:</td>
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# APPENDIX D

## PROGRAM OF STUDY UPDATES

Indicate the program of study sections impacted by the proposed change. Describe the proposed updates, need, and anticipated student outcomes.

Components of the CTE Program of Study Amendment Application (check all applicable):

- Academic, technical, or workplace standards used to develop the program of study;
- Early career and early college opportunities, industry-recognized certifications and/or licenses, or technical skill attainment measures for the program of study; or
- Program of study overview, end-of-program assessment(s), or course level details (complete course level updates below).

Proposed Change(s):

Amendment Rationale:

Anticipated Student Outcome(s):

## COURSE LEVEL UPDATES

Provide updates to existing program of study courses.

**Course title:**

**Course description (include prerequisites):**

**Course knowledge and skills (what students will know and be able to do):**

**End-of-Course Assessment(s):**

- Teacher designed assessment
- LEA designed assessment
- Certification/credentialing exam (specify):
- Licensing exam (specify):
- Nationally recognized exam (specify):
- Other (specify):
## DEPARTMENT OF EDUCATION PROGRAM OF STUDY AMENDMENT

The following section will be completed by staff from the Delaware Department of Education, CTE & STEM Office and reported to the LEA as part of the CTE program of study approval process.

**Date Delaware CTE Program of Study Amendment Received:**

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<tr>
<th>Approved</th>
<th>Yes (Date):</th>
<th>No (Justification):</th>
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**Local Education Agency (LEA):**

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<th>Program of Study Amendment Effective Date:</th>
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**LEA CTE Coordinator Name:**

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### CTE Program of Study Course Titles, Course Codes, and Funding Levels:

1. **Course Name/Course Code/Funding Level:**
2. **Course Name/Course Code/Funding Level:**
3. **Course Name/Course Code/Funding Level:**
4. **Course Name/Course Code/Funding Level:** (as applicable)

### CTE Concentrator/Completer Course Titles:

- **Concentrator Course:**
- **Completer Course:**

### CTE Program of Study Request:

- [ ] State-model CTE Program of Study
- [ ] Local CTE Program of Study

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- [ ] Labor Market Information (LMI) Review;
- [ ] Articulation/Dual Enrollment Agreement(s); and
- [ ] Program of Study Matrix.

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# DELAWARE CTE MIDDLE SCHOOL APPLICATION

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2. The LEA will submit CTE program data as required by the Delaware Department of Education;
3. All teachers are certified in the appropriate CTE area and participate in program specific professional learning;
4. The LEA will convene and engage a program advisory committee for the purposes of program development, implementation, and continuous improvement;
5. All students have equal access to the program of study as well as early career/early college options;
6. Career and Technical Student Organizations are integral components of the program of study;
7. The LEA will maintain safe facilities and equipment aligned with the program of study goals; and
8. A process for continuous improvement has been established, which includes a model of evaluation and program improvement.

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<th>LEA CTE Coordinator Signature:</th>
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<th>LEA Chief School Officer Signature:</th>
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### ACADEMIC AND TECHNICAL SKILL STANDARDS

List the academic, technical, and workplace skills and knowledge used to develop the CTE course.

**Title and source of academic standards:**

**Title and source of technical skill standards:**

**Title and source of workplace or other skill standards, as applicable:**

---

### COURSE DESCRIPTIONS AND END-OF-COURSE ASSESSMENT

List the CTE middle school course title. Provide an overview of the course and define what students should know and be able to demonstrate upon completion. Identify appropriate end-of-course assessment(s).

**Course title:**

**Course description (include prerequisites):**

**Course knowledge and skills (what students will know and be able to do):**

**End-of-Course Assessment(s):**

- [] Teacher designed assessment
- [] LEA designed assessment
- [] Certification/credentialing exam (specify):
- [] Licensing exam (specify):
- [] Nationally recognized exam (specify):
- [] Other (specify):

---

### COURSE CURRICULUM

Identify the method of technical and academic curriculum development (adopted, adapted, or developed in accordance with guidance from a program advisory committee).

**POS technical and academic curriculum will be:**

- [] Adopted (specify source):
- [] Adapted (specify source):
- [] Developed locally (describe):
- [] Other (specify):

---

### TEACHER CERTIFICATION

Provide valid teacher certification(s), candidate experience, pre-requisite and requisite licensure or certification requirement(s) for POS teachers.

**POS teacher requirements include:**

- [] Teacher certification(s) (list):
APPENDIX E

☐ Candidate experience (describe):
☐ Pre-requisite professional licensure or certification requirement(s) (list):
☐ Requisite professional licensure or certification requirement(s) (list):
☐ Other (describe):

MIDDLE SCHOOL-HIGH SCHOOL ARTICULATION

Describe how the CTE middle school course is aligned with one or more CTE high school programs of study. Describe how the school culture promotes career exploration and the opportunity for students to learn and apply both academic and technical skills.

Middle School-High School Alignment:

Culture of Career-Readiness:

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Indicate the Career and Technical Student Organization (CTSO) affiliation by checking the appropriate box.

☐ BPA ☐ FFA
☐ DECA ☐ HOSA
☐ FCCLA ☐ TSA

PROGRAM OF STUDY MATRIX

Complete the program of study matrix with high school partners to demonstrate the alignment of academic and technical courses, culminating early career and/or early college experiences at the high school level. Attach the Program of Study Matrix.

Access the Program of Study Matrix.
APPENDIX E

### DEPARTMENT OF EDUCATION MIDDLE SCHOOL APPROVAL

The following section will be completed by staff from the Delaware Department of Education, CTE & STEM Office and reported to the LEA as part of the CTE Middle School approval process.

**Date Delaware CTE Middle School Application Received:**

<table>
<thead>
<tr>
<th>Local Education Agency (LEA):</th>
<th>Middle School Course Start Date:</th>
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<td>School(s):</td>
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<th>LEA CTE Coordinator Name:</th>
<th>Phone:</th>
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**Course Name/Course Code/Funding Level:**

**Grade Level:**

**CTE Program(s) of Study Alignment:**

- High School:
- Program(s) of Study:

**CTE Program of Study Attachments:**

- [ ] Middle School Matrix

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<th>DDOE CTE &amp; STEM Director Signature:</th>
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