



## Defining High-quality CTE: Quality CTE Program of Study Framework, Draft Version 1.0

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“High-quality career and technical education” has become a national catchphrase—in use by policymakers, practitioners and a wide variety of influential education and workforce development stakeholders. But what is high-quality CTE? How should this term be defined, and can it be used to evaluate programs, determine areas for targeted improvements and recognize successful elements that should be scaled?

To help synthesize the myriad voices that are a part of the dialogue on high-quality CTE, ACTE is embarking on a multi-step project to identify a comprehensive, research-based quality CTE program of study framework, test the framework and integrate it into our efforts to recognize and disseminate information on best practices within CTE. The first phase of the broader project focuses on defining high-quality CTE. Within this phase, our first research objective is to identify the specific characteristics of a high-quality CTE program of study.

In our first publication related to this effort, [Defining High-quality CTE: Contemporary Perspectives on CTE Quality](#), we examined national quality frameworks for CTE, career pathways and related initiatives. Through our analysis, we identified a need for greater clarity and consistency in the conversation about high-quality CTE, particularly as it relates to individual local programs.

With this in mind, we began development of an ACTE high-quality program of study framework. We conducted a deeper review of the existing program-quality frameworks that were the subject of our original paper, supplementing with more detailed companion documents to those frameworks, state policy documents and frameworks we previously excluded from our analysis because they address a single program element in-depth. The draft ACTE quality framework elements and criteria below are designed to apply to single, local CTE programs of study spanning secondary and postsecondary education, although they may be adapted to other units of analysis.

### 1. Standards-aligned and Integrated Curriculum

- The CTE program of study is based on a formal, competency-based curriculum, outlining content, goals and objectives.
- The curriculum is designed to prepare students for both further education and careers.
- The curriculum is aligned with relevant standards for core subjects, such as reading, math and science, including grade-level, district, institution, state and/or national standards, as deemed appropriate.
- The curriculum is aligned with industry-validated technical standards.

- The curriculum incorporates employability skills that help students succeed in the workplace, such as problem solving, critical thinking, teamwork, communication and workplace etiquette.
- Academic, technical and employability knowledge and skills are meaningfully integrated throughout the curriculum to prepare students to apply knowledge and skills to real-world scenarios.
- The curriculum is reviewed annually and revised as necessary to reflect both the latest advances in the field and student needs.
- The curriculum is publically available and accessible to students, parents/guardians and the community.

## **2. Sequencing and Articulation**

- The CTE program of study includes a defined sequence of required and elective courses and/or competencies across secondary and postsecondary education that incorporates both academic and technical knowledge and skills.
- Courses start with broad foundational knowledge and skills and progress in specificity to build students' depth of knowledge and skills within the program of study.
- Content within the CTE program of study is vertically aligned to prepare students to transition seamlessly to the next level of education without remediation or duplication.
- The CTE program of study sequence is designed to lead to one or more recognized postsecondary credentials.
- The CTE program of study provides students with opportunities to earn advanced credit while in high school, including dual/concurrent enrollment, AP and IB.
- Formalized processes for earning postsecondary credit are reviewed and updated regularly and made available to students and parents/guardians.
- Secondary and postsecondary CTE faculty collaborates regularly on course sequencing, vertical alignment and opportunities for postsecondary credit.

## **3. Student Assessment**

- Assessments are aligned to program standards and curriculum and are fully integrated into instruction.
- The CTE program of study measures student attainment of academic knowledge and skills provided by program curriculum.
- The CTE program of study measures student attainment of industry-validated technical knowledge and skills provided by program curriculum.
- The CTE program of study measures student attainment of employability knowledge and skills provided by program curriculum.
- The CTE program of study prepares students, where available and appropriate, for assessments that lead to industry certifications and licenses.
- If the CTE program of study incorporates fee-based industry certification assessments, procedures address how those fees will be handled.
- Teachers have access to guidance to help them select appropriate and relevant national, state and local assessments.
- Assessments should be valid and reliable and allow each student to provide an authentic demonstration of their knowledge and skills.
- The CTE program of study incorporates multiple forms of assessment, including formative learning assessment, formative diagnostic assessment, benchmark/interim assessment and summative assessment.
- The CTE program of study incorporates performance-based assessment where students must demonstrate the application of their knowledge and skills.
- Performance data from assessments informs curriculum, instruction, career development and student supports.
- Assessment results are securely shared with students and, where appropriate, parents/guardians.

## **4. Prepared and Effective Program Staff**

- CTE teachers meet state, district and/or institution certification and licensing requirements.
- CTE teachers possess appropriate credentials, knowledge and experience in their CTE area(s) of instruction, including industry-relevant knowledge and skills.
- CTE teachers possess appropriate credentials, knowledge and experience in pedagogy.
- CTE teachers are provided with sustained, intensive professional development on the following topics:
  - academic curriculum and standards
  - technical curriculum and standards

- employability skills and standards
- current industry trends
- CTE-academic integration
- instructional strategies
- personalized/differentiated instruction
- assessment
- equity and access
- data analysis
- course sequencing, vertical alignment and opportunities for postsecondary credit
- work-based learning
- Career and Technical Student Organizations (CTSOs)
- business-education partnerships
- career development and guidance
- classroom management
- CTE teacher certification and professional development requirements are made available to current and future teachers and to the public.
- CTE teachers, academic teachers, counselors, administrators and other relevant staff collaborate regularly and frequently to coordinate curriculum, instruction, assessment and extended learning activities and to analyze data for program improvement.
- Collaboration procedures are formalized and made available to the relevant parties.
- Administrators and other relevant staff are provided with opportunities for professional development and with resources and time to carry out tasks related to the CTE program.

## **5. Engaging Instructional Strategies**

- CTE program of study instruction is evidence-based and driven by curriculum and relevant standards.
- Contextualized instruction results in students applying technical, academic and employability knowledge and skills to real-world scenarios.
- Educators use a variety of instructional strategies to engage students.
- Project-based learning and related instructional strategies, such as problem-based, inquiry-based and challenge-based learning, are fundamental instructional strategies in the CTE program of study.
- Academic/core concepts, such as literacy and numeracy, are incorporated into instruction through collaboration between core and CTE instructors.
- Instruction incorporates relevant equipment, technology and digital tools to support learning.
- Elements of CTE program instruction are differentiated and personalized for different sub-populations and learning styles.

## **6. Access and Equity**

- The CTE program of study is marketed to all potential students and their parents/guardians.
- The CTE program of study actively recruits and enrolls students who have been traditionally underrepresented, including by race, gender and special population status.
- CTE program of study enrollment decisions are based on published criteria that eliminate bias against sub-populations and encourage enrollment based on student interest.
- Accommodations to facilities as well as curriculum, instruction, materials and assessment, where appropriate, are provided to ensure all students have access to and can achieve success in the program.
- Support services, where appropriate, are provided to ensure all students have access to and can achieve success in the program.
- The CTE program of study's curriculum, instruction, materials and assessment are free from bias, inclusive and non-discriminatory.
- The CTE program of study works to eliminate barriers to extended learning, such as opportunities for work-based learning, CTSOs and postsecondary credit attainment, for all students, including special populations and nontraditional students.

## **7. Facilities and Equipment**

- The CTE program of study's facilities and equipment reflect current workplace requirements and align, as appropriate, to industry and/or occupational standards.
- Facilities and equipment support and align to curriculum standards and program objectives.

- Facilities and equipment are designed to be accessible for all students.
- Facilities and equipment meet appropriate federal, state and local safety standards.
- Facilities and equipment are kept in safe and clean condition.
- Instruction is provided on the safe and appropriate use of equipment associated with the CTE program of study.
- Resources and processes are provided to regularly update, maintain and replace equipment.

## **8. Business and Community Partnerships**

- CTE programs of study have an advisory board or similar formalized, structured approach to developing and facilitating partnerships with representatives from education, industry, the community and other stakeholders.
- Partnerships involve diverse stakeholders, including representatives from education; industry; community, workforce and economic development agencies; and potentially parents/guardians and students, as well as representatives from the program itself.
- Partnerships have formalized procedures and processes, such as a written memorandum of understanding, by-laws and a strategic plan.
- Partners meet regularly with a defined agenda and defined roles and responsibilities.
- Procedures for partner recruitment, selection and appointment are made available to current and potential partners.
- Partners identify, validate and review:
  - curriculum for technical, academic and employability knowledge and skills that meet the needs of students and industry
  - assessment and related credentials, including industry certifications and licenses
- Partners provide input and recommendations:
  - on current and future workforce needs to inform updates to the programs of study
  - to ensure equipment, facilities and materials are consistent with industry standards
- Partners provide and evaluate work-based learning experiences for students and teachers.
- Partners participate in CTSO activities; for example, by serving as mentors and judges.
- Partners invest funds and/or provide in-kind support, raise external funds and develop a partnership budget to meet goals.
- Partners advocate for and promote the program.
- Parents/guardians and community members are provided with regular opportunities to engage in program of study activities.

## **9. Career Development**

- Comprehensive career development is delivered in a systemic way both before students enter into the program of study and as they progress throughout to promote and support the career decision-making and planning of all students.
- Each CTE student has a personalized, multi-year education and career success plan, including a sequence of academic and technical courses, that informs course selection, planning for postsecondary education and a career, and involvement in extended learning.
- Each education and career success plan is reviewed and updated annually through collaboration among career counselors, students and parents/guardians.
- A coordinated, sequenced series of age-appropriate career exploration and development activities is embedded in the program of study and aligned with relevant local, state and national standards.
- Students in the program of study and their parents/guardians, as appropriate, are provided accurate and timely information on:
  - further education and training options, including application procedures, enrollment and financing
  - occupational trends and outlook, high-demand and high-wage career opportunities, and the educational pathways that lead to current career opportunities
- Students in the program of study have access to job placement information and services.
- Guidance, counseling, and advisement professionals have access to up-to-date information and training about the CTE program of study requirements and career opportunities in order to aid students in education and career planning and decision making.

## **10. Career Technical Student Organizations (CTSOs)**

- One or more CTSOs is an integral, intra-curricular part of the CTE program of study.

- The CTSO is aligned with curriculum, instruction and relevant national, state and/or local standards.
- CTSO activities develop and reinforce technical, leadership and employability knowledge and skills.
- CTSO participation is available to all students and activities may occur in school, in the community and/or virtually.
- CTSO participation is aligned with student interests, career goals and personalized learning plans.
- CTSO participation includes opportunities for students to interact with business professionals and leaders.
- Students participate in relevant competitive events.
- Students participate in relevant community and school activities.
- CTSOs are closely supervised by a teacher and/or other appropriate staff with clearly defined roles as well as resources and time for developing, facilitating and evaluating the CTSO.
- Continuous evaluation assesses the effectiveness of CTSO activities.

## **11. Work-based Learning**

- Work-based learning is organized in a sequenced continuum that progresses in intensity from career awareness activities, such as workplace tours, to career preparation activities, such as internships and apprenticeships, as a student moves through the program of study.
- The work-based learning continuum culminates in an extended, intensive career preparation experience.
- Work-based learning is aligned to program of study curriculum and develops and reinforces technical, academic and employability knowledge and skills.
- Work-based learning experiences are available to all students and may occur in school, in a workplace, in the community and/or virtually.
- Work-based learning is aligned with student interests, career goals and personalized learning plans.
- Work-based learning includes opportunities for students to interact with business professionals and leaders.
- Each work-based activity has a written instructional plan for students specifying the specific learning objectives, policies and procedures, and evaluations that are required.
- Requirements and procedures for work-based learning that address access, selection, liability, supervision, safety and transportation are formalized and available to employers, students and parents/guardians.
- Work-based learning experiences comply with relevant federal and state legal, health and safety laws and regulations.
- Work-based learning experiences are closely supervised by a teacher and/or other appropriate staff with clearly defined roles as well as resources and time for developing, facilitating and evaluating the experience.
- Employers play an active role in developing, facilitating and evaluating the work-based learning experience.
- Continuous evaluation assesses the effectiveness of the work-based learning continuum for students and employers and addresses challenges.

## **12. Data and Outcomes**

- Processes are in place to ensure the timely and accurate submission of data to federal and state requirements as well as additional local needs.
- Perkins indicators form the foundation of data collection, analysis and reporting; however, additional short- and long-term outcomes, including student success across educational levels and into employment, should be included, as warranted.
- The CTE program of study has privacy and security protections in place for data collection, analysis and reporting.
- The CTE program of study produces valid, reliable and complete aggregate data.
- The CTE program of study produces valid, reliable and complete disaggregated data for sub-populations, facilitating comparisons among sub-populations and the general student population.
- The CTE program of study has a formal process in place for the systematic and continuous use of data for program improvement.
- Data is made available to educators, where district/state policies allow.\*
- The CTE program of study shares data in an easy-to-understand format with the advisory board, parents/guardians and the community.