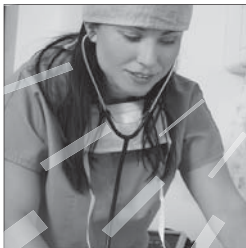


CAREER TECHNICAL EDUCATION

## A COURSE OF STUDY

# Creating a Standards-Aligned Career Technical Education System



## EXECUTIVE SUMMARY

Implementing System Change in the Career Technical Education Curriculum by aligning all courses to the **California Technical Education Model Curriculum Standards** and **Career Technical Education Framework for California Public Schools**



CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee





## INTRODUCTION

The executive summary is provided to familiarize educational leaders with the content and organization of the Career Technical Education Course of Study that is available at [www.ccsesa.org](http://www.ccsesa.org). This is the first course of study that is available online and is provided to educators by the California County Superintendents Educational Services Association (CC-SESA), Curriculum and Instruction Steering Committee (CISC) and Student Program and Services Steering Committee (SPSS).

The course of study provides a “how-to” guide for developing a Standard-aligned Career Technical Education system. This one-stop resource provides instructional leaders with a step-by-step methodology for leading program development, refinement, and implementation. The intent is to simplify this process by merging critical information sources with graphic organizational templates designed to ensure all elements of California’s system to improve student achievement are in place.

The goal of the Career Technical Education (CTE) Course of Study is to provide the school principal/instructional leader with a practical, step-by-step guide for leading program development. This course of study addresses the separation between the academic (college preparatory) and technical (career preparatory) program of study by recognizing the value that both bring to one another building a strong integrated approach to learning. The intent of this document is to simplify this process by merging critical information sources with graphic organizational templates designed to ensure that all elements of California’s system to improve student achievement are in place. Strategic reference materials such as the Career Technical Education Framework for California Public Schools and California Career Technical Education Model Curriculum Standards are aligned with other significant materials gathered from best practices throughout the state. The “Eleven Elements of a High-Quality CTE System,” identified in the 2008-2012 State Plan for CTE, in conjunction with the “Nine Essential Program Components” (EPC’s), provide a skeletal structure for this guide that is substantiated by research.

The Eleven High-Quality Elements establish the vision, goals, and essential elements of a world-class career technical education system for the State of California. With a focus on rigorous and engaging curricula, supportive relationships, and demonstrated outcomes, these elements serve as the backbone for the preparation of all students for career and academic success, postsecondary education, and adult roles and responsibilities.

The related Essential Program Components (EPCs) are foundational for a responsive CTE program and system. These elements and components align with state standards; support professional development; encourage collaboration; and provide guidance for targeted fiscal support.

Instructional leadership is critical to the success of this process. The eleven elements of a High-Quality CTE program and the related EPCs provide an excellent structure on which leadership can develop and achieve CTE programs of excellence.



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# ELEVEN ELEMENTS OF A HIGH-QUALITY CTE SYSTEM

The California State Plan for Career Technical Education establishes the vision, goals, and essential elements of a world-class career technical education system. CTE — with its focus on rigorous and engaging curricula, supportive relationships, and demonstrated outcomes — has become critical to the preparation of all students for career and academic success, postsecondary education, and adult roles and responsibilities.

The vision, mission, guiding principles, and goals of an ideal statewide CTE system, as well as the characteristics of an effective, high-quality CTE system, are embedded within the discussion of each of the following Eleven High-Quality Elements.

## **High-Quality Element One: Leadership at all Levels**

“Institutional commitment and leadership at every level, including the institutions’ governing boards, are vital to sustaining and expanding CTE. As in any system, effective leadership is needed to articulate and spotlight the need for CTE, galvanize support and resources, ensure sound management and coordination, and facilitate continuous improvement.” (California State Plan for Career Technical Education, pages 56 & 57)

## **High-Quality Element Two: High-Quality Curriculum and Instruction**

CTE offers rigorous, integrated, technical, and academic content focused on careers that are intrinsically interesting to students and is delivered through applied, performance- and project-based teaching strategies that facilitate understanding and mastery. It also instills essential transferable workplace and career management skills that students can draw upon over a lifetime of learning and career development. In addition, CTE is, by necessity, often taught in personalized learning environments (e.g., small classes, learning communities, student organizations, and worksites) that further augment the benefits of these programs. Finally, CTE programs are dynamic; curricula need to stay current with rapid changes in the workplace, requiring ongoing updates and learning on the part of CTE faculty.

High-quality curriculum and instruction in CTE includes the intentional reinforcement of the cognitive, academic, and technical rigor inherent in CTE and the alignment of CTE with academic and industry standards. It also includes the integration of CTE and academic content through a variety of strategies that foster complementary approaches to teaching and learning — strategies that draw on the best of what both CTE and non- CTE disciplines have to offer. (California State Plan for Career Technical Education, page 62)

## **High-Quality Element Three: Career Exploration and Guidance**

Career exploration and guidance are central to CTE. They help ensure that students have access to information and experiences that allow them to envision a wide range of possibilities for their lives and to make informed decisions, both while in their educational programs and throughout their careers — decisions based both on their own interests, needs, and goals, and on a thoughtful assessment of opportunities. (California State Plan for Career Technical Education, page 72)

### **High-Quality Element Four: Student Support and Student Leadership Development**

Students in CTE programs — indeed, all students — come to schools and colleges with a range of needs that must be addressed in order for them to succeed in their studies and transition to future endeavors. Needs may range from transportation, child care, and translation services to mentoring and coaching for success in highly challenging CTE competitions and projects or with transitions to new career opportunities. This section addresses the range of services and programs that support and reinforce technical and academic learning, with an emphasis on the relationships — organizational or personal — that make these programs work. It also includes outreach to students for enrollment in CTE, which, in itself, promotes learning and success. Stakeholders emphasize the importance of enrolling students into CTE programs as a means to engage them and facilitate learning, and the subsequent importance of providing the support services necessary to ensure their success. (California State Plan for Career Technical Education, page 79)

### **High-Quality Element Five: Industry Partnerships**

The unique link between industry and education is an essential feature of CTE and distinguishes it from other types of instructional designs and models. Industry partners play crucial roles in ensuring that CTE curricula are current and relevant, and that students and educators have opportunities to explore their interests and learn important skills in the workplace. (California State Plan for Career Technical Education, page 86)

### **High-Quality Element Six: System Alignment and Coherence**

In order to support the academic and career technical achievement of students in CTE programs, it is essential that all the components of the entire CTE system be effectively linked. System coherence and alignment incorporates several elements, including course sequencing, pathways, articulation, and coordination across sectors. The system alignment:

- Must incorporate secondary education and postsecondary education elements.
- Must include coherent and rigorous content, aligned with challenging academic standards and relevant career and technical content, in a coordinated, nonduplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed.
- May include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits.

(California State Plan for Career Technical Education, page 89)

### **High-Quality Element Seven: Effective Organizational Design**

For CTE to prepare students to meet rigorous standards and become lifelong learners with employable skills, the K–12, adult school, and community college systems need to be intentionally designed to ensure that this occurs. Minimally, this entails the development of organizational structures and processes that facilitate student access to programs, enable faculty to collaborate with one another, promote personalization, link students with business and industry for workplace learning, and encourage course and program completion. In so doing, CTE also blurs the line between education and the workplace, in such a way that all are working toward the common goal of ensuring student success and workforce readiness. (California State Plan for Career Technical Education, page 101)

### **High-Quality Element Eight: System Responsiveness to Changing Economic Demands**

For California's immense and diverse economy to retain its prosperity and competitive position in the global market, education must meet the demand for skilled workers in a wide range of industries. A demand-driven system is responsive to current workforce development needs and labor market realities and predictions. (California State Plan for Career Technical Education, page 107)

### **High-Quality Element Nine: Skilled Faculty and Professional Development**

Key elements of quality CTE are the skills of its instructors and the existence of a sufficient pool of skilled instructors to adequately staff programs. (California State Plan for Career Technical Education, page 112)

### **High-Quality Element Ten: Evaluation, Accountability, and Continuous Improvement**

Evaluation and accountability are key to any system or program improvement process. Multiple accountability systems already exist in California to provide data that both meet specific requirements at the federal and state level and support program improvement efforts. These include systems mandated by NCLB, the Carl D. Perkins Act, and the Workforce Investment Act, as well as state systems designed to provide the Academic Performance Index for schools; ensure continued funding for high-quality, high-demand community college programs; and assess compliance with the requirements of many different individual programs in both segments. In view of the multiplicity of existing accountability systems, coupled with the intended integration of CTE into educational policy as a strategy to serve all students, any discussion of accountability must focus on utilizing, aligning, and expanding upon existing systems, and must emphasize program improvement along with reporting of compliance-driven data. Similarly, to the extent that such a system (or collection of systems) is intended to drive improvement in CTE for the benefit of all its customers — students, businesses, communities, and taxpayers statewide — it must report progress on measures that are meaningful to each of these groups. (California State Plan for Career Technical Education, page 117)

### **High-Quality Element Eleven: CTE Promotion, Outreach, and Communication**

CTE offers myriad benefits to students, employers, state and regional economies, and communities. In order to ensure continued support for CTE, its benefits must be validated and made more widely known to students, parents, educators, counselors, community members, and policymakers. This plan makes explicit the need to clearly communicate the benefits of CTE to each of these groups based on evidence of its impact. (California State Plan for Career Technical Education, page 129)

# ORGANIZATION OF THE COURSE OF STUDY

The information below explains the organization of the CTE Course of Study.

## **HIGH-QUALITY ELEMENT ONE** **Leadership at All Levels**

Description of the High-Quality Element as defined in the California State Plan for CTE.

Institutional commitment and leadership at every level, including the institutions' governing boards, are vital to sustaining and expanding CTE. As in any system, effective leadership is needed to articulate and spotlight the need for CTE, galvanize support and resources, ensure sound management and coordination, and facilitate continuous improvement.

## **Essential Program Component Three** **Instructional Leadership**

Correlation to the Essential Program Components

Administrative functions are in place to support teachers, parents, and students involved in the CTE program, including: attendance accounting/review; facilities/budget management; effective master schedule; and effective parent, community, and staff communication. Leadership works to blend CTE and college prep together to form a challenging program for all students, preparing them for numerous opportunities when they exit the K-12 system. Leadership utilizes the Career Technical Education Framework for California Public Schools, California Career Technical Education Model Curriculum Standards, and local requirements to develop, maintain, monitor, and evaluate the CTE program.

Correlation to the CTE Framework

### **Career Technical Education Framework for California Public Schools**

Supporting information for Essential Program Component Three found in:  
Chapter 3: Administration and Support Services (CTE Framework pages 70-97)

## **Implications for Your CTE Plan**

Information for the instructional leader

Effective, knowledgeable leadership is the foundation on which substantial high quality programs are built. Although much of the construction and eventual delivery of the coursework will be prepared by others, the instructional leader is the ultimate resource for these tasks, and as such, can instill a sense of pride, success, and ownership in all who work on this project.

## **Role of the Instructional Leader** **1.0 Leadership at All Levels**

No.	Steps To Follow	Completed
1.1	Ensure that CTE teachers understand the process for integrating Pathway and Foundation Standards into CTE courses and programs, making sure that: <ul style="list-style-type: none"> <li>• Curriculum is current, relevant to career development, and rigorous</li> <li>• Knowledge and skills taught are part of a planned sequence of courses</li> <li>• Industry standards and needs have been addressed in the curriculum</li> </ul>	
1.2	Ensure that CTE teachers are aware of the curriculum alignment tools available including: <ul style="list-style-type: none"> <li>• Standards Alignment Chart in the back of the Career Technical Education Model Curriculum Standards document</li> <li>• Hot List of English/language arts and math standards discussed in High-Quality Element Two.</li> <li>• CTE Online discussed in High-Quality Element Two.</li> </ul>	

Other sections in the document include:

**CTE Plan Template** for writing a school/district CTE standards-aligned plan (Section 2).

**Suggested Course Writing Template** for writing a standards-aligned CTE course (Section 3).

**Sample Completed Course Template**, a model standards-aligned CTE course (Section 3).

**Support documents for High-Quality Elements** (Appendix A).

**Reference documents** supporting CTE programs (Appendix B).



## HIGH-QUALITY ELEMENT TWO: High-Quality Curriculum and Instruction

CTE offers rigorous, integrated, technical, and academic content focused on careers that are intrinsically interesting to students and is delivered through applied, performance- and project-based teaching strategies that facilitate understanding and mastery. It also instills essential transferable workplace and career management skills that students can draw upon over a lifetime of learning and career development. In addition, CTE is, by necessity, often taught in personalized learning environments (e.g., small classes, learning communities, student organizations, and worksites) that further augment the benefits of these programs. Finally, CTE programs are dynamic; curricula need to stay current with rapid changes in the workplace, requiring ongoing updates and learning on the part of CTE faculty.

High-quality curriculum and instruction in CTE includes the intentional reinforcement of the cognitive, academic, and technical rigor inherent in CTE and the alignment of CTE with academic and industry standards. It also includes the integration of CTE and academic content through a variety of strategies that foster complementary approaches to teaching and learning — strategies that draw on the best of what both CTE and non- CTE disciplines have to offer.

(California State Plan for Career Technical Education, page 62)

### **Essential Program Component One: Instructional Program**

The county offices/districts/schools/ROCPs provide the leadership in guiding all Career Technical Educational (CTE) courses and instructional materials to the California Career Technical Education Model Curriculum Standards. The Pathway Standards provide guidance in skills needed in specific career fields while the 11 Foundation Standards list workplace skills students need to master to be successful in the workplace. The Career Technical Education Framework for California Public Schools provides strategies and examples for implementing these standards.

### **Essential Program Component Two: Instructional Time**

The county offices/districts/schools/ROCPs complies with and monitors the instructional hours as written for each standards-aligned CTE course outline.

### **Essential Program Component Six: Ongoing Instructional Assistance and Support for Teachers**

Challenging, rigorous, and engaging standards-based instruction approaches learning from an applications point of view, utilizing effective classroom management practices that promote student engagement through preparation for, and participation in, workplace activities. The school implements effective techniques of instructional assistance and teacher support including the use of teacher coaches.

### **Career Technical Education Framework for California Public Schools**

Supporting information for High-Quality Element Two is found in:

- Chapter 1: Structuring a Standards-based Curriculum (CTE Framework, pages 13-38)
- Chapter 2: Standards-based Education–Lesson Planning and Instruction (CTE Framework, pages 39-69)
- Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)
- Part II: Industry Sectors (CTE Framework, pages 137-445)

## Implications for Your CTE Plan

“Narrow, job-skill-oriented secondary vocational programs of the past that prepared individuals almost exclusively for entry into trades have given way to broader CTE programs. These programs teach rigorous academic concepts with the content of career education. The CTE curriculum standards show direct linkages to California’s Content Standards and provide learning opportunities in many venues both within and outside the traditional classroom.”

*(California Career Technical Education Model Curriculum Standards, page v)*

Career Technical courses, like any other, require curricula that is not only interesting and able to capture and hold the interest of the audience, but which serves a specific purpose as well. Standards help focus this purpose and make results quantifiable.

CTE courses require attention to a variety of standards, which may require some review at this point. First, the CTE Standards must be addressed. These are organized, first by the type of Standard, and then by the type of course. The two standard “types” have been identified as: (1) Foundation standards; and (2) Pathway Standards. Foundation Standards are those skills necessary and important in almost any career endeavor. Pathway Standards are, as the name implies, based on the training needs of a specific industry.

Once CTE Standards have been addressed, it is mandated that core Content Standards also be included in the coursework of all classes, schoolwide. The criteria on which each school is judged (STAR testing and CAHSEE) is weighted heavily toward basic mathematics and English/language arts skills. To fail to include appropriate aspects of these disciplines within all classes is to put your school at a disadvantage.

### **Standards-Aligned Courses**

The importance of explicitly linking academic and CTE teaching and learning in ways that increase student academic and career and technical achievement is incontrovertible in Perkins IV. Explicit reinforcement of the academic standards, aligned to the CTE course curriculum is imperative. The infusion of academic Content Standards and Foundation/Pathway Standards into CTE courses plus the incorporation of career themes, essential workplace skills, and/or work-based learning creates a learning environment that prepares a student for a career and/or post secondary education.

### **Understanding the Standards**

The 11 Foundation Standards focus on the Content Standards of English/language arts, mathematics, history/social science, science, and visual/performing arts as well as competencies similar to those described in the June 1991 report issued by the U.S. Department of Labor, the *Secretary’s Commission on Achieving Necessary Skills* (SCANS). Foundation Standards 1.0 and 2.0 focus on the Content Standards while standards 3.0 – 11.0 list the skills and knowledge necessary for workers in all career fields. These Foundation Standards are uniform in all sectors and cover the 11 areas essential to student success. *(See CTE Foundation Standards, Appendix A, page 156)*

The Pathway Standards are concise statements that reflect the essential knowledge and skills students are expected to master for a specific pathway. The 58 Career Pathways are organized under 15 industry sectors of interrelated occupations and broadly defined industries. Each Career Pathway prepares students for successful completion of Career Technical Standards and entrance to advanced postsecondary coursework related to their chosen career. *(See CTE Pathway Standards, Appendix A, page 157)*

### Identifying CTE Standards for CTE Courses (Mapping)

The first step toward integrating Standards into coursework is to map the curriculum, selecting and sequencing the Foundation, Pathway, and Industry Standards for the course. This will result in a progression of learning that will be organized into instructional units. When identifying the Foundation and Pathway Standards, instructors realize that these standards are fairly general and may apply to more than one unit. The key is to identify a reasonable number of standards, realizing that selecting too few could indicate that the course is primarily focused on content outside the standards, while choosing too many might signal that the standards are being addressed in a superficial or elementary way. Instructors should also remember that the selected standards should be assessed in unit performance tasks, project-based assessments, and/or formal tests. Explicit reinforcement of the academics embedded in CTE courses, and alignment of CTE with core content standards, can occur within a single CTE course.” (*California State Plan for Career Technical Education* page 62 and 63)

(Curriculum maps for each Career Pathway are located in Part II of the CTE Framework)

To start the selection process, become familiar with Foundation Standards 1.0 and 2.0, a list of the appropriate Content Standards for each career pathway. Foundation Standard 1.0 lists the mathematics standards for pre-algebra (7th grade math), algebra I, and geometry. CTE instructors should first align seventh grade math standards to their course since 76% of the California High School Exit Examination (CAHSEE) is based on pre-algebra standards. Instructors should also identify and align algebra I and geometry Content Standards, reinforcing concepts students are learning in their high school math classes.

Foundation Standard 2.0 lists the ninth through twelfth grade English/language arts Content Standards. The English/language arts portion of the CAHSEE is based on the ninth/tenth grade ELA Standards, therefore, it is logical to align CTE courses to these Standards. However, the instructor should read through the eleventh/twelfth grade Content Standards and align those that fit the course curriculum (e.g., writing application Standard 2.5 – Writing A Resume).

Industry Standards, appropriate to the course, provide the direct link to business and industry. However, not all 15 industry sectors will have published industry standards. One method for acquiring industry standards is through discussions with Advisory Board members concerning the skills required by industry for a specific sector.

The chart below gives the definition for the four types of standards that should be aligned to each CTE course.

Pathway Standards	Foundation Standards	Content Standards	Industry Standards
Concise statements that reflect the essential knowledge and skills students are expected to master for a specific Career Pathway.	Concise statements that focus on the core Content Standards and competencies described in the June 1991 report issued by the U.S. Department of Labor, the Secretary’s Commission on Achieving Necessary Skills.	Concise statements that focus on the skills each student should master at a given grade level. The core Content Standards are written for English/ language arts, mathematics, history/ social science, and science.	The established rules, regulations, and generally accepted operating procedures, practices, and requirements defined by national trade associations, and state and local government laws relevant to a product or service.
See Appendix A, pg. 157	See Appendix A, pg. 156		

## Aligning Courses to Content Standards

Begin the alignment of Content Standards by turning to page 366 in *California Career Technical Education Model Curriculum Standards* and review your course charts. These charts list the suggested standards in English/language arts, mathematics, history/social science, science, and visual/performing arts for each of the 15 industry sectors. Remember that the examples are not comprehensive and do not include all content standards appropriate for the course. (See *CTE Aligned Content Standards Chart*, Appendix A, page 159)

Another alignment tool is the “*Hot List*” of Standards that many CTE teachers have found useful when selecting core Content Standards for their course. This “*Hot List*” asks questions about the course content then lists appropriate English/language arts and mathematics standards, many of which are tested on the CAHSEE. (See *CTE “Hot List” for California Content Standards*, Appendix A, page 160)

When aligning the ninth/tenth grade English/Language Arts Content Standards for writing, realize that these standards are organized under the sections of Writing Strategies, Writing Applications, and Oral and Written English Language Conventions. The CTE instructor may **assess** a variety of content standards using one writing application. For example, if a student is asked to write a cover letter to a potential employer (Writing Standard 2.5), the student may also demonstrate competency on the following Writing Strategy and Written Convention Standards.

Using precise language .....	Writing Strategy 1.2
Developing a clear main idea.....	Writing Strategy 1.4
Revising the document to improve word choice and coherence.....	Writing Strategy 1.9
Using proper mechanics of punctuation.....	Oral/Written Conventions 1.1
Using proper sentence structure .....	Oral/Written Conventions 1.2
Showing proper use of English and good control of grammar .....	Oral/Written Conventions 1.3
Developing a legible document with proper spelling.....	Oral/Written Conventions 1.4

One method to show students the standards that will be graded on a given writing assignment can be found in Appendix A, page 162. These *Writing Application Forms* show the integration of Content Standards for three different writing applications.

## Aligning Courses to Industry Standards

Aligning Industry Standards to CTE courses assures business and industry employers that entry-level workers are well prepared for the real world of work. Industry Standards provide a clear pathway to a career, stating the performance objectives students need to master and the process for industry certification. In the automotive field, the National Automotive Technicians Education Foundation (NA-TEF) lists Industry Certification Standards, while in the computer field, Microsoft Office or CISCO lists Industry Standards and certification requirements.

## Writing Course Outlines

Once the instructor gains an understanding of the Pathway, Foundation, and Industry Standards, and learns methods for aligning these standards to their course, then it is time to write the standards-aligned course outline. A suggested course-writing template is located on page 105, providing the instructor with a format for writing his/her course. A completed course outline, located on page 91, serves as a model. Also, the document *Writing a Standards-aligned Course: A Step-By-Step Process* (See Appendix A, page 164) will provide guidance in the course writing experience.

## **Schoolwide Applications for Aligned CTE Courses**

### **Integration of CTE into the Schoolwide Plan**

Various sections of the WASC Report, Williams Act, and the Single School Plan ask for verification that all courses are aligned to the state core Content Standards. Standards-aligned CTE courses must become part of all school plans and provide verification that CTE instructors are reinforcing/enhancing core Content Standards.

### **STAR and CAHSEE**

The school's Academic Performance Index (API) and Average Yearly Performance (AYP) scores are based on the STAR and CAHSEE assessments. As schools strive to improve their score, all teachers, including CTE instructors, must contribute by teaching/reinforcing content standards. Instructors can determine which content standards have the most "weight" on state tests by downloading the STAR and CAHSEE blueprints located on the CDE website ([www.cde.ca.gov](http://www.cde.ca.gov)). The blueprints list all the Content Standards in a given subject and show the number of questions for each standard on the STAR test.

### **A-G Course Approval**

High schools have many of their academic courses approved through the UC a-g process. CTE courses may also be approved using this same process. To learn more about the approval process, download information and forms at: [www.ucop.edu/a-gGuide/ag/welcome.html](http://www.ucop.edu/a-gGuide/ag/welcome.html).

### **Aligning Courses Using CTE Online**

CTE Online ([www.cteonline.org](http://www.cteonline.org)) was established to help practitioners articulate a clear and deliberate relationship between academic achievement and Career and Technical Education through access to:

- Professional Curriculum Development Tools
- Professional Alignment Resources
- Standards Databases Cross-Referenced to STAR and CAHSEE

Using CTE Online, instructional leaders will find all the necessary tools to assist CTE teachers in matching Foundation and Pathway Standards to activities. The program leads educators through an overview of standards and assists with the alignment of these standards to the course. This program helps staff provide the administration with precise documentation on unit-by-unit activities, alignment to standards, and a snapshot of regularly called upon academic skills.

CTE Online provides tools that support documentation of instructional time, methods for teacher collaboration, and the development of pacing and scheduling documents. Once a course has been developed it can be shared with administrative staff and/or other job-alike colleagues. (See *Sample Course Using CTE OnLine*, Appendix A, page 165)

### **Summary**

It is the role of the CTE teacher to incorporate Foundation, Pathway, and Content Standards into a curriculum of applied learning by delivering a highly interactive instructional program, implementing effective classroom management techniques, differentiating instruction, understanding/implementing effective lessons, designing and administering effective assessments, interpreting the assessment data, and using the assessment data to modify the instructional program. It is the role of the instructional leader to provide teachers with instructional assistance and support, deepening their understanding of, and improving their instructional program.

CTE courses provide students with “real world” applications and prepare them for a career, giving students a sense of validity to their learning. The job skills found in the SCANS report (Foundation Standards 3.0 – 11.0), the Content Standards for the core academic subjects (Foundation Standards 1.0 and 2.0), the industry related standards (Pathway Standards), and the business/industry related skills (Industry Standards) are all important components to a standards-aligned curriculum that prepares students for the future, whether career or postsecondary education. The key is identifying and aligning these standards to the CTE curriculum.

### **Instructional Practices**

When the mandate calls for inclusion of Foundation Standards, Content Standards, Pathway Standards, applied learning, and a combination of traditional and authentic assessment tools to be synthesized in each CTE course, it takes little imagination to predict the concern of those instructors who must make this come together and work. Teachers must not only confront the challenging, rigorous nature of incorporating diverse requirements into each course, but must also create and deliver an engaging product to a sometimes reluctant audience. It is the function of leadership to fully understand faculty concerns, comprehend the process of quality curriculum development, and to provide a variety of instructional assistance, teacher support activities, and teacher coaches. Only then can they both guide the development of quality curricula and attain appropriate high-quality professional development opportunities, and bolster staff morale in an authentic way by providing guidance through examples of the naturally interesting and motivational aspects of CTE courses.

Career Technical Education can, and should be, a central component of the broader educational program for students no matter what their postsecondary aspirations. When teachers combine academic and technical coursework in an integrated fashion, the college preparatory and career technical curricula mutually reinforce one another to produce students who are prepared for a full range of postsecondary options as well as career options. Creating this successful integrated curriculum starts with these foundational elements:

Academic and Technical Rigor: Projects are designed to address key learning standards identified by the school or district.

Authenticity: Projects use a real world context (e.g., community and workplace problems) and address issues that matter to students.

Applied Learning: Projects engage students in solving problems calling for competencies expected in high-performance work organization (e.g., teamwork, problem-solving, communication, etc.)

Active Exploration: Projects extend beyond the classroom by connecting to internships, field-based investigations, and community explorations.

Internships: “Linking the real-world work settings through work-based learning is another form of integration. Work-based experiences facilitate learning by promoting engagement, motivation, and relationships with adult professionals who model what is required to succeed in the workplace. Work-based learning accommodates various learning styles by teaching and assessing mastery in multiple ways, including the use of performance tasks. Finally, because standards of performance and behavior in the workplace are sometimes more rigorous than in classrooms, work-based learning can challenge students to achieve at higher levels.” (*California State Plan for Career Technical Education*, page 63)

Apprenticeship Programs: Formal programs linked to post-secondary training programs provided by employer groups or trade unions.

Service Learning: A community-based program where students learn by doing through experiential instructional strategies and the delivery of program standards through coordinated community projects.

Adult Connections: Projects connect students with adult mentors and coaches from the wider community.

Assessment Practices: Projects involve students in regular, performance-based exhibitions and assessments of their work; evaluation criteria reflect personal, school, and real-world standards of performance.

*(Designing Multidisciplinary Integrated Curricula: A Practical Manual, ConnectEd, page 5)*

### Effective Teaching

Effective teachers deliver a standards-based curriculum through highly interactive classrooms, incorporating appropriate activities and resources by:

- Planning and teaching a lesson that incorporates a variety of learning styles.
- Introducing specific and general vocabulary prior to the lesson.
- Using a wide variety of methods to explain a concept or assignment.
- Checking the students understanding by asking students to communicate their understanding of the concept or assignment.
- Allowing students to use a variety of ways to demonstrate their comprehension/knowledge.
- Establishing tutoring situations that offer additional assistance as needed.
- Extending the learning time beyond the regular school day.
- Establishing special sessions to prepare students for unfamiliar testing situations.
- Establishing a safe and supportive environment.

Classrooms that differentiate instruction are classrooms in which effective instructional practices are in place. Teachers diagnose student strengths and needs, use grouping strategies effectively, and provide targeted differentiated instruction to meet the needs of all students by:

- Providing opportunities for more intensive, systematic teaching and practice to learn the skills and strategies needed for meeting the CTE Standards for students with difficulties and/or disabilities.
- Stimulating and extending the proficiency of students who are advanced learners by providing opportunities for acceleration and enrichment.
- Adapting the instruction for students with multiple needs.
- Providing different ways for students to access information (e.g., hands-on experiences, media presentations, demonstrations, working in small groups).
- Providing different ways for students to express what they know (e.g., written and/or oral assessments, projects, different forms of oral or written reports, individual conference with the teacher).

An effective teaching style includes grouping students based upon assessment data. These flexible groups form and disband often and may be homogeneous or heterogeneous depending upon the needs of each student. Whole group/small group instruction and one-on-one instruction are methods for meeting the needs of all students and enhancing opportunities for learning. Picture this Natural Resource course, for example. The class is learning to use a GPS system for navigation. Through a whole group lecture and demonstration, the teacher provides instruction on the proper use and function of the GPS apparatus. In this lecture, the instructor uses a concrete object to enhance the effectiveness of the presentation. Next, the students are placed in small groups and given the task of locating different objects using a GPS apparatus. The instructor uses this small group setting to provide added instruction to the group or individual students.

### Effective Practices

#### **Speakers Bureau: San Bernardino City Professional Firefighters (Algebra 1 Standard 5.0)**

Local firefighters taught Algebra 1, Standard 5.0, demonstrating how they solve problems involving linear equations to adjust the fire engine's water output for pressure lost or gained due to changes in elevation of the nozzle (e.g., taking the nozzle to the top of a building or down a hill). The fireman presented related vocabulary (e.g., psi, nozzle pressure, total engine pressure). Next, the students were presented with a formula used to calculate nozzle pressure, followed by some sample firefighting problems that deal with how hydraulic pressure is affected by changes in elevation. Finally, the students were taken outside to view a fire engine demonstration on the effects that adjusting water pressure has on output of water. This was a practical application of a core Content Standard.

**For more information, including the *Daily Lesson Plan Format*, contact:  
Alliance for Education, San Bernardino County Office of Education: <http://www.sbcalliance.org>**

### Lesson Planning

Effective teachers develop standards-based lesson plans that incorporate an understanding of standards, assessment, instructional methods, and differentiated instruction. The lesson planning sequence includes:

1. Unpacking the standards: Understanding the depth and scope of the information, the skills that need to be addressed, asking the questions: "What do students need to know?" and "What should students be able to do?" (See *Unpacking the Standards*, Appendix A, page 169)
2. Designing the assessment: Selecting and analyzing the targeted standard then building an appropriate assessment using the variety of assessment tools available to the CTE teacher. (See *Designing Standards-Based Assessments*, Appendix A, page 170 and High-Quality Element Ten, page 68)
3. Identifying the method of instruction: Choosing an instructional method that incorporates a variety of learning styles (e.g., lecture, reading, viewing a video, completing research, writing a paper, completing a project).
4. Writing and teaching the lesson: Lesson plans include; (1) activating prior knowledge; (2) teaching the standards-based lesson; (3) checking for student understanding; (4) providing guided and independent practice; (5) giving and evaluating the assessment. (See *Lesson Plan Format*, Appendix A, page 171)
5. Assigning student work: Guided and independent practice gives the student the opportunity to demonstrate his/her knowledge of the lesson.

6. Examining student work: Determines if the student has mastered the identified standard(s).  
(See *Examining Student Work*, Appendix A, page 172)
  
7. Giving the assessment: Administering the assessment that was written in item # 2.
  
8. Analyzing the data from the assessment to drive subsequent instruction: Using data to modify instruction includes; (1) identifying data sources; (2) analyzing the data, including comparison of expected, ideal, and actual results; (3) making immediate modification of instructional strategies based on the results; and (4) planning future modification of instructional plans.  
  
(See *Using Assessment Data to Drive Instruction*, Appendix A, page 173)  
(*Career Technical Education Framework for California Public Schools*, pages 57-59)
  
9. Rigor/Relevance Framework: “Secondary educators are also including contextualized and project-based learning in academic courses. One example is the Rigor/Relevance Framework. Developed by the International Center for Leadership in Education, founded in 1991 by William R. Daggett, this framework assists educators in delivering instruction that facilitates integration of academic or cognitive skills with applied learning experiences, such as those offered by CTE programs.” (*California State Plan for Career Technical Education*, page 67)

### **Classroom Management**

Effective classroom management techniques that encourage rigorous learning begin with the teacher’s ability to recognize and appropriately address diverse student skills/needs. In the classroom, CTE teachers plan for the EL student as well as the gifted and talented. Flexible groupings, differentiated instructional techniques, and relating skills to real-life situations are all successful teaching methods.

Implementing well-developed classroom management practices is a prerequisite to successful classroom instruction. Dynamic teaching occurs in well-managed classrooms where effective teachers have set the stage for learning, have promoted student engagement, and have maximized instructional time and effectiveness. Students have a high probability of being successful in a supportive safe classroom setting with well-planned, well-paced, and well-delivered lessons. Robert J. Marzano’s book *What Works in Schools; Translating Research Into Action* includes four integrated aspects of classroom management: (1) establishing and enforcing a comprehensive list of rules and procedures; (2) using disciplinary interventions that strike a balance between positive reinforcement for appropriate behavior and negative consequences for inappropriate behavior; (3) establishing relationships with students that involve appropriate levels of dominance and cooperation; and (4) developing the mental dispositions of “*withitness*” and an emotional objectivity towards students.

### **Coaching**

Opportunities to refine classroom instruction may be provided through coaches and/or content experts who are knowledgeable with the CTE topics. These coaches may work inside the classroom in conjunction with the teacher to support and deepen knowledge about course content and the delivery of instruction. Coaches may also work with the CTE teacher on the development of effective lessons and implementing diverse lesson requirements including: (1) analyzing standards; (2) identifying required skills and knowledge; (3) designing assessments; (4) planning and delivering lessons; (5) examining student work; (6) interpreting data; and (7) modifying the instructional program following the information learned from the analysis of assessment data. Coaches may also provide professional development on identified lesson strategies and targeted areas of the curriculum.

## **Summary**

The focus on “inclusion of the high-level Foundation Standards in all CTE courses ensures that students, possessing both academic and career technical skills and knowledge, will be well prepared for success in the twenty-first century labor market. Education Trust notes that: The technical reading and computational skills required for jobs that pay a living wage are remarkably similar to those required for credit-bearing college courses. The ever-popular myth of the hard worker who can’t read well or divide fractions but owns his own air-conditioning repair company is just that—a myth [for today’s students].”

*(Career Technical Education Framework for California Public Schools, page 60)*

## **Instructional Hours**

Leadership’s focus on instructional time, as it applies to the development of CTE courses, is a two-pronged consideration. The first issue is the planning and use of instructional hours and monitoring the construct and use of these hours. This is the responsibility of administration. The second aspect is systemic; it’s the hub of the master schedule.

The dual intent of standards-based instruction is first to clarify the essential information and skills each course must address, and then to plan a reasonable instructional timeline which allows for delivery and student acquisition of the critical learning; a pacing guide. To begin instruction without defining necessary outcomes is to chance eliminating essential information. Likewise, to construct a course without prioritizing content may cause a potentially catastrophic imbalance in time spent on the most critical instruction versus that spent on less important activities. *(See Sample Pacing Guide for CTE Courses, Appendix A, page 174)*

Standards-Aligned CTE courses must be constructed with a plan for both disseminating instructional materials and pacing the delivery. The time needed for delivery of each instructional unit/concept can then be determined and semester/year courses can be logically and accurately configured. The logical time to determine the pacing of instructional materials is when the instructor is writing the units for a course. The instructor identifies the unit, writes the unit description, and then determines the number of hours needed to instruct the concepts and the time needed for students to complete the learning tasks. An example of this type of planning is located in the sample course outline on page 105.

Monitoring the instruction and pacing of each CTE course is an important task for CTE teachers and educational leaders. Recognizing that the development of a pacing guide is only as useful as the level of adherence, it becomes the administrator’s task to develop an organized method of observation and supervision that gains faithful adherence to the pacing guide. Much of the administrative work necessary for this may result in the development of a plan to ensure teacher self-monitoring.

## **Summary**

Instructional time, in a standards-aligned CTE program, requires that teachers develop a pacing guide, identify the instructional time needed for each unit, and develop a process of self-monitoring.

## Role of Instructional Leader

### High-Quality Curriculum and Instruction

To implement the tasks for the instructional leader, follow the step-by-step procedures below and ensure that the Quality Program Checklist items are implemented:

#### Standards-Aligned Courses

No.	Steps To Follow	Completed
2.1	Ensure that CTE instructors understand the Foundation and Pathway Standards listed in the <i>California Career Technical Education Model Curriculum Standards</i> document. (See <i>CTE Foundation Standards, Appendix A, page 156</i> and <i>CTE Pathway Standards, Appendix A, page 157</i> )	
2.2	Identify the Foundation, Pathway, and Industry Standards for the course, creating the learning sequence.	
2.3	Select the Content Standards for the course using Foundation Standards 1.0 and 2.0. (See <i>CTE Aligned Content Standards Chart, Appendix A, page 159</i> , and/or <i>CTE "Hot List" for California Content Standards, Appendix A, page 160</i> )	
2.4	Ensure that CTE instructors identify Content Standards that are listed on the STAR and CAHSEE blueprints. (See <a href="http://www.cde.ca.gov">www.cde.ca.gov</a> )	
2.5	Ensure that CTE instructors have a procedure for writing their standards-aligned CTE course. (See <i>Writing a Standards-aligned Course: A Step-by-Step Process, Appendix A, page 164</i> )	
2.6	Ensure that CTE instructors use an agreed upon template for writing standards-aligned CTE courses. (See a sample course writing template and completed course outline, pages 105 and page 110)	
2.7	Ensure that CTE instructors align Foundation, Pathway, and Industry Standards to each unit.	
2.8	Ensure that CTE instructors understand that writing assignments may be used to assess writing strategies, applications, and written convention standards. (See <i>Standards-Aligned Writing Application Form, Appendix A, page 162</i> )	
2.9	Understand that CTE Online is a tool to write an aligned course outline that will incorporate all items mentioned in 1.1-1.6. (See <i>Sample Course Using CTE Online, Appendix A, page 165</i> )	
2.10	Ensure that teachers of core academic disciplines are familiar with the CTE Standards and can use them as a context for bringing industry applications and real world relevance to their curriculum.	
2.11	Sequence the CTE courses using the introductory–concentration–capstone course structure.	
2.12	Develop a process for sequencing the CTE courses with a postsecondary institution and/or have the course accredited through the UC a-g process.	
2.13	Develop a process for ensuring that CTE courses provide industry certification assessments, when appropriate.	
2.14	Ensure that CTE courses are part of schoolwide reports (e.g., WASC, Williams Act) demonstrating how CTE courses are aligned to Content Standards.	

## Instructional Practices

No.	Steps To Follow	Completed
2.15	Ensure that CTE teachers understand the process of unpacking the standards for their course. (See <i>Unpacking the Standards</i> , Appendix A, page 169)	
2.16	Ensure that CTE teachers identify the skills and knowledge required for students to achieve proficiency of a standard. (See <i>Career Technical Education Framework for California Public Schools</i> , pages 137-445)	
2.17	Ensure that CTE teachers design assessments that measure the extent to which students have mastered the standards. (See <i>Designing Standards-based Assessments</i> , Appendix A, page 170)	
2.18	Ensure that CTE teachers design lessons beginning with the identification of the standard. (See <i>Lesson Plan Format Appendix A</i> , page 171)	
2.19	Ensure that CTE teachers develop/use a rubric to score performance-based or authentic assessments.	
2.20	Ensure that CTE teachers use effective classroom management techniques to meet the diverse needs of all students.	
2.21	Ensure that teachers implement differentiated instruction techniques to meet the needs of all students.	
2.22	Ensure that CTE teachers understand the process and importance of examining student work. (See <i>Examining Student Work</i> , Appendix A, page 172)	
2.23	Ensure that CTE teachers use assessment data to make immediate modifications to their instructional strategies. (See <i>Using Assessment Data to Drive Instruction</i> , Appendix A, page 173)	
2.24	Ensure that teachers have the options to use CTE Online to create standards-aligned courses and supplemental assistance with a lesson plan format.	
2.25	Ensure that CTE and core academic teachers are provided with planned time to work collaboratively on standards alignment.	

## Instructional Hours

No.	Steps To Follow	Completed
2.26	Ensure that all teachers develop a course pacing guide showing the instructional and lab hours for each unit. (Note: See sample course outline, page 105 and <i>Sample Pacing Guide for CTE Courses</i> , Appendix A, page 174)	
2.27	Ensure that the master schedule provides opportunities for teacher collaboration and student access to CTE courses.	

## Quality Program Checklist (Appendix A, page 135)

No.	Steps To Follow	Completed
2.A	The CTE Model Curriculum Standards and Framework for the _____ Industry Sector are the basis for content of courses offered. Curriculum addresses Pathway Standards within the program pathway(s) and course sequence.	
2.B	Career paths have been identified and can be found on a chart or diagram in the CTE Plan.	
2.C	The CTE program has classroom-linked work-based learning and work experience education opportunities through strengthened industry partnerships, effective coordination with Regional Occupational Center/Program (ROCP), adult schools. Work Experience Education, and Cooperative Work Experience Education programs, and a systematic review of policies and practices addressing barriers to access, including insurance, liability, and other issues.	

2.D	The school master schedule allows students to follow the recommended sequence of CTE courses to complete the selected career path(s).	
2.E	Students are provided with a strong experience in an understanding of all aspects of industry.	
2.F	Technology is incorporated into program instruction.	
2.G	There is collaboration between academic and CTE teachers.	
2.H	CTE courses are industry certified, have been submitted to meet high school graduation requirements, University of California a-g (UC a-g) credit or articulated with a community college.	

### Suggested Support Documents for High-Quality Element Two

#### Standards-Aligned Curriculum

1. CTE Foundation Standards .....	156
2. CTE Pathway Standards .....	157
3. CTE Aligned Content Standards Chart .....	159
4. CTE “Hot List” for California Content Standards.....	160
5. Standards-Aligned Writing Application Form (Integrating writing strategies and conventions into writing applications) .....	162
6. Writing a Standards-Aligned Course: A Step-By-Step Process .....	164
7. CTE Standards-Aligned Course Writing Template.....	105
8. Completed CTE Standards-Aligned Course using the Template.....	110
9. Sample Course Using CTE Online .....	165

#### Instructional Practices

10. Unpacking the Standards.....	169
11. Designing Standards-based Assessments.....	170
12. Lesson Planning Format .....	171
13. Examining Student Work.....	172
14. Using Assessment Data to Drive Instruction.....	173

#### Instructional Time

15. Sample Pacing Guide for CTE Courses .....	174
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- Complete the High-Quality Element Two (High-Quality Curriculum and Instruction) section of your **CTE Plan** using the **template** beginning on **page 79**.
- Upon completion of the CTE Plan, the next step is to **support the implementation**, then **continuously** monitor, adjust, and refine the information found in this High-Quality Element.

Use With High-Quality Element Two  
California Career Technical Education  
Model Curriculum Standards

## CTE FOUNDATION STANDARDS

The eleven Foundation Standards focus on the Content Standards in the four academic core subjects as well as competencies described in the June 1991 report issued by the U.S. Department of Labor, the *Secretary's Commission on Achieving Necessary Skills* (SCANS). Foundation Standards 1.0 and 2.0 focus on the Academic Standards while Standards 3.0 – 11.0 focus on the SCANS skills. These Foundation Standards are uniform in all sectors and cover the eleven areas essential to all students' success.

<b>1.0</b>	<b>Academics</b>	<ul style="list-style-type: none"> <li>• Students understand the academic content required for entry into postsecondary education and employment in the identified industry sector.</li> <li>• Academics include core content standards in: (1) Mathematics; (2) Science, and (3) History/Social Science.</li> </ul>
<b>2.0</b>	<b>Communications</b>	<ul style="list-style-type: none"> <li>• Students understand the principles of effective oral, written and multimedia communication in a variety of formats and contexts.</li> <li>• Communications include core content standards in: (1) Reading; (2) Writing; (3) Written and Oral English Language Conventions; and (4) Listening and Speaking.</li> </ul>
<b>3.0</b>	<b>Career Planning and Management</b>	<ul style="list-style-type: none"> <li>• Students understand how to make effective decisions, utilize career information, and manage personal career plans.</li> </ul>
<b>4.0</b>	<b>Technology</b>	<ul style="list-style-type: none"> <li>• Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments.</li> </ul>
<b>5.0</b>	<b>Problem Solving and Critical Thinking</b>	<ul style="list-style-type: none"> <li>• Students understand how to create alternative solutions using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques.</li> </ul>
<b>6.0</b>	<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>• Students understand health and safety practices, policies, procedures, and regulations, including equipment and hazardous material handling.</li> </ul>
<b>7.0</b>	<b>Responsibility and Flexibility</b>	<ul style="list-style-type: none"> <li>• Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings.</li> </ul>
<b>8.0</b>	<b>Ethics and Responsibilities</b>	<ul style="list-style-type: none"> <li>• Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms.</li> </ul>
<b>9.0</b>	<b>Leadership and Teamwork</b>	<ul style="list-style-type: none"> <li>• Students understand effective leadership styles, key concepts of group dynamics, team and individual decision-making, the benefits of workforce diversity, and conflict resolution.</li> </ul>
<b>10.0</b>	<b>Technical Knowledge and Skills</b>	<ul style="list-style-type: none"> <li>• Students understand the essential knowledge and skills common to all career pathways within the identified industry sector.</li> </ul>
<b>11.0</b>	<b>Demonstration and Application</b>	<ul style="list-style-type: none"> <li>• Students demonstrate and apply the concepts contained in the foundation and career pathway standards.</li> </ul>

Use With High-Quality Element Two  
California Career Technical Education  
Model Curriculum Standards

## CTE PATHWAY STANDARDS

Pathway Standards are concise statements that reflect the essential knowledge and skills students are expected to master for a specific pathway. The fifty-eight Career Pathways are organized under fifteen Industry Sectors of interrelated occupations and broad industries. Each Career Pathway prepares students for successful completion of career technical standards as well as preparing students to enter more advanced postsecondary course work related to their chosen career.

(CTE Framework pg. 36-40)

<b>1</b>	<b>Agriculture and Natural Resources Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Agricultural Business Pathway</li> <li>B. Agricultural Mechanics Pathway</li> <li>C. Agriscience Pathway</li> <li>D. Animal Science Pathway</li> <li>E. Forestry and Natural Resources Pathway</li> <li>F. Ornamental Horticulture Pathway</li> <li>G. Plant and Soil Science Pathway</li> </ul>
<b>2</b>	<b>Arts, Media, and Entertainment Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Media and Design Arts Pathway</li> <li>B. Performing Arts Pathway</li> <li>C. Production and Managerial Arts Pathway</li> </ul>
<b>3</b>	<b>Building Trades and Construction Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Cabinetmaking and Wood Products Pathway</li> <li>B. Engineering and Heavy Construction Pathway</li> <li>C. Mechanical Construction Pathway</li> <li>D. Residential and Commercial Construction Pathway</li> </ul>
<b>4</b>	<b>Education, Child Development, and Family Services Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Child Development Pathway</li> <li>B. Consumer Services Pathway</li> <li>C. Education Pathway</li> <li>D. Family and Human Services Pathway</li> </ul>
<b>5</b>	<b>Energy and Utilities Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Electromechanical Installation and Maintenance Pathway</li> <li>B. Energy and Environmental Technology Pathway</li> <li>C. Public Utilities Pathway</li> <li>D. Residential and Commercial Energy and Utilities Pathway</li> </ul>
<b>6</b>	<b>Engineering and Design Industry Sector</b>	<ul style="list-style-type: none"> <li>A. Architectural and Structural Engineering Pathway</li> <li>B. Computer Hardware, Electrical, and Networking Engineering Pathway</li> <li>C. Engineering Design Pathway</li> <li>D. Engineering Technology Pathway</li> <li>E. Environmental and Natural Science Engineering Pathway</li> </ul>

<b>7</b>	<b>Fashion and Interior Design Industry Sector</b>	A. Fashion Design, Manufacturing, and Merchandising Pathway B. Interior Design, Furnishings, and Maintenance Pathway
<b>8</b>	<b>Finance and Business Industry Sector</b>	A. Accounting Services Pathway B. Banking and Related Services Pathway C. Business Financial Management Pathway
<b>9</b>	<b>Health Science and Medical Technology Industry Sector</b>	A. Biotechnology Research and Development Pathway B. Diagnostic Services Pathway C. Health Informatics Pathway D. Support Services Pathway E. Therapeutic Services Pathway
<b>10</b>	<b>Hospitality, Tourism, and Recreation Industry Sector</b>	A. Food Science, Dietetics, and Nutrition Pathway B. Food Service and Hospitality Pathway C. Hospitality, Tourism, and Recreation Pathway
<b>11</b>	<b>Information Technology Industry Sector</b>	A. Information Support and Services Pathway B. Media Support and Services Pathway C. Network Communications Pathway D. Programming and Systems Development Pathway
<b>12</b>	<b>Manufacturing and Product Development Industry Sector</b>	A. Graphic Arts Technology Pathway B. Integrated Graphics Technology Pathway C. Machine and Forming Technology Pathway D. Welding Technology Pathway
<b>13</b>	<b>Marketing, Sales, and Service Industry Sector</b>	A. E-commerce Pathway B. Entrepreneurship Pathway C. International Trade Pathway D. Professional Sales and Marketing Pathway
<b>14</b>	<b>Public Services Industry Sector</b>	A. Human Services Pathway B. Legal and Government Services Pathway C. Protective Services Pathway
<b>15</b>	<b>Transportation Industry Sector</b>	A. Vehicle Maintenance, Service, and Repair B. Aviation and Aerospace Transportation Services Pathway C. Collision Repair and Refinishing Pathway

# CTE ALIGNED CONTENT STANDARDS CHART

Example from the *California Career Technical Education Model Curriculum Standards*

		Agriculture	Arts, Media	Building	Education	Energy	Engineering	Fashion	Finance	Health	Hospitality	Information	Manufacturing	Marketing	Public Service	Transportation
	<b>Writing (Grades Nine and Ten)</b>															
<b>1.1</b>	Establish a controlling impression or coherent thesis that conveys a clear and distinctive perspective on the subject and maintain a consistent tone and focus throughout the piece of writing.	X														
<b>1.2</b>	Use precise language, action verbs, sensory details, appropriate modifiers, and the active rather than the passive voice.	X														
<b>1.3</b>	Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.	X		X	X	X	X	X	X	X	X	X	X	X	X	X
<b>1.4</b>	Develop the main ideas within the body of the composition through supporting evidence (e.g., scenarios, commonly held beliefs, hypotheses, definitions).			X	X	X	X	X	X	X	X	X	X	X	X	X
<b>1.5</b>	Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).	X		X	X	X	X	X	X	X	X	X	X	X	X	X
<b>1.6</b>	Integrate quotations and citations into a written text while maintaining the flow of ideas				X				X			X	X	X		
<b>1.7</b>	Use appropriate conventions for documentation in the text, notes, bibliographies by adhering to those in style manuals (e.g., <i>Modern Language Association Handbook</i> , <i>The Chicago Manual of Style</i> ).				X		X		X			X	X	X		X
<b>1.8</b>	Design and publish documents by using advanced publishing software and graphic programs.				X		X		X			X	X	X		X
<b>1.9</b>	Revise writing to improve the logic and coherence of the organization and controlling perspective, the precision of word choice, and the tone by taking into consideration the audience, purpose, and formality of the context.				X				X			X		X		

## Use With High-Quality Element Two

# UNPACKING THE STANDARDS

For each standard, determine the scope, depth of information, and skills that need to be addressed, a process called “*unwrapping*,” or “*unpacking*” the standard. For example, Entrepreneurship Pathway Standard B 5.1 calls for students to “understand the role and importance of entrepreneurship and small business in the economy.” To *unpack* this standard, teachers identify the knowledge and skills student should be able to do as shown in the chart below:

Standard	<u>Entrepreneurship Pathway B 5.0:</u> Students understand the key economic concepts that affect small business ownership	
Standard Sub-component	<u>Entrepreneurship Pathway B 5.1</u> Understand the role and importance of entrepreneurship and the small business in the economy.	
<b>Course Level</b>	<input type="checkbox"/> Introductory <input type="checkbox"/> Concentration <input type="checkbox"/> Capstone	
Title	Knowledge/Skills	Benchmark/Level
<ul style="list-style-type: none"> <li>• What do students need to know?</li> <li>• At what level?</li> </ul>	<ol style="list-style-type: none"> <li>1. Key economic concepts that affect small business ownership.</li> <li>2. Definition of entrepreneurship.</li> <li>3. The role of and importance of entrepreneurship and the small business in the economy.</li> </ol>	<ol style="list-style-type: none"> <li>1. Cite at least five concepts and explain how they affect small business ownership.</li> <li>2. Give the basic definition of entrepreneurship.</li> <li>3. Discuss the role and importance of entrepreneurship and the small business in the economy at a level appropriate to a small business owner.</li> </ol>
<ul style="list-style-type: none"> <li>• What should students be able to do?</li> <li>• At what level?</li> </ul>	<ol style="list-style-type: none"> <li>1. Research and explain the key economic concepts that affect small business ownership.</li> <li>2. Explain the role and importance of entrepreneurship and small business in the economy.</li> </ol>	<ol style="list-style-type: none"> <li>1. Conduct research on key economic concepts and analyze their effect on small business ownership, demonstrating an understanding appropriate for a small business owner.</li> <li>2. Research and apply prior knowledge to analyze the role and importance of entrepreneurship and small business in the economy.</li> </ol>
<ul style="list-style-type: none"> <li>• Topics/contexts What must be taught?</li> </ul>	<ol style="list-style-type: none"> <li>1. Basic knowledge of concepts (# 1-3 above).</li> <li>2. Techniques of conducting research to produce desired results.</li> <li>3. Interpreting information and drawing conclusions.</li> </ol>	

Charts for unpacking the standards in each Career Pathway, like the one shown above, may be found in Part II of the *Career Technical Education Framework for California Public Schools*, pages 137-445.

## Use With High-Quality Element Two

# USING ASSESSMENT DATA TO DRIVE INSTRUCTION

Analysis of assessment data is an important step in the instructional process. When teaching a standards-based curriculum, using assessment data to modify future instruction is straight forward and consists of the following steps:

1. Identify the data sources.
2. Analyze the data, including comparison of expected, ideal, and actual results.
3. Make immediate modification of instructional strategies.
4. Plan future modification of instructional plans.

*(Career Technical Education Framework for California Public School, page 57)*

When **identifying the data sources**, the CTE teacher needs to use assessment data from classroom assessments, portfolio notes, performance tasks and state assessments. If the instructor sets up his/her test following the standards, then a simple item analysis will indicate whether or not the instruction worked for each component of the standards. If the instructor is using a rubric, then charting the scores will provide the needed information. For State assessment data, the instructor can find performance information for all the students in the school or a sub-group by visiting the California Department of Education web site ([www.cde.ca.gov](http://www.cde.ca.gov)). For more information on STAR test data, see *California Standardized Testing and Reporting Appendix A*, page 88.

**Analyzing the data** simply means reviewing the available data for each standard including data from paper and pencil, performance, and/or state assessments. If, for example, 85% of the students demonstrated proficiency on a standard, this is a strong indicator that the instruction worked. If, on the other hand, 55% of the students scored basic or unacceptable, then it is time to **modify the instruction** by re-teaching the concept using a different teaching strategy, dividing the group to allow the proficient students to tutor the non-proficient students, and/or provide an enrichment activity for the proficient students and re-teach the concept to the non-proficient students.

Once the data has been analyzed, the instructor may find that **making future modifications of instructional plans** may help ensure that all students master the standards for the course. When using the assessment data for this purpose, the instructor should consider: (1) adding more time for that section of the course; (2) finding different resource materials; and/or (3) implementing a process of peer teaching. Differentiating the instruction so all students are learning the standards is the right thing to do.

# CTE Standards-Aligned Course Writing Template

## (Course Title)

### Basic Course Information

<b>Course Title:</b>	
<b>CTE Industry Sector:</b>	
<b>Career Pathway:</b>	

<b>Course Level:</b>	Introductory	Concentration	Capstone
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<b>Local Course Number:</b>	
<b>CBEDS Title:</b>	
<b>CBEDS Number:</b>	

<b>Course Hours:</b>	
<b>Articulation Information:</b>	
<b>Academic Credit:</b>	
<b>Advisory Committee Meetings:</b>	

### Career Plan: How this Course fits into the Student's Career Course Sequence

(Ed. Code Section 52314(b))

ROP/CTE Recommended Courses	Grade 9	Grade 10	Grade 11	Grade 12	Post-secondary course, certificate or degree program

### Occupations for Identified Pathway

Pathway occupations organized by level of education and training required for workplace entry. (Asterisked occupations that require certification or licensure.)		
High School (diploma)	Postsecondary Training (certification and/or AA degree)	College University (bachelor's degree or higher)
•	•	•

### Course Goals

1.	
2.	
3.	
4.	

### Course Objectives

1.	
2.	
3.	
4.	

**Course Description**

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**Instructional Strategies**

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**Instructional Materials**

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**Instructional Units**

<b>Unit 1</b>		<b>Class Hrs.</b>		<b>Lab Hrs.</b>	
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Description:

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<b>Unit 2</b>		<b>Class Hrs.</b>		<b>Lab Hrs.</b>	
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Description:

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<b>Unit 3</b>		<b>Class Hrs.</b>		<b>Lab Hrs.</b>	
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Description:

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<b>Unit 4</b>		<b>Class Hrs.</b>		<b>Lab Hrs.</b>	
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Description:

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**Course Competencies**

**Unit 1:** Upon completion of this course, the student is able to:

1	
2	

**Unit 2:** Upon completion of this course, the student is able to:

1	
2	

**Unit 3:** Upon completion of this course, the student is able to:

1	
2	

## Standards-Aligned Course Outline

Instruction Unit / Subunits	Concepts/Skills	Benchmarks	Model Curriculum Standards			
			Academic Content	Career Tech CP = Pathway F = Foundation	Other Standards (e.g. Industry, SLO, CSTP)	Mentioned = M, Reinforced = R Taught = T

**Codes for Academic Content Standards:**

**English/language Arts Grades 9/10 includes:** R = Reading, W = Writing, LC = Written and Oral English Language Conventions, L/S = Listening and Speaking  
**Mathematics Gr. 7 (Pre-Algebra) includes:** NS = Number Sense, AF = Algebra/Functions, MG = Measurement/Geometry, SD = Statistics/Data Analysis/Probability,  
 MR = Math Reasoning

A1 = Algebra I, G = Geometry, All = Algebra II, PS = Probability and Statistics, SS = Social Science, P = Physics, C = Chemistry, B = Biology/Life Science, **IE = Investigation/Experimentation**

# CTE QUALITY PROGRAM CHECKLIST

## 1. Leadership at All Levels

Yes	No		
		1.A	The Career Technical Education (CTE) Pathways are articulated with Post-Secondary and industry through Programs of Study, formal Articulation agreements, and/or Tech Prep.
		1.B	Local District Administrators participate in CTE professional development regarding the benefits of CTE and the management of CTE within the larger context of educational improvement to serve all students.
		1.C	Investment is made to provide support for CTE leadership at the local level to ensure that CTE administrators, teacher(s), and counseling and instructional leaders have sufficient time and resources to implement system improvements and work with their counterparts in other programs.

## 2. High-Quality Curriculum and Instruction

Yes	No		
		2.A	The CTE Model Curriculum Standards and Framework for the _____ Industry Sector are the basis for content of courses offered. Curriculum addresses "Pathway" standards within the program pathway(s) and course sequence.
		2.B	Career paths have been identified and can be found on a chart or diagram in the CTE Plan.
		2.C	The CTE program has classroom-linked work-based learning and work experience education opportunities through strengthened industry partnerships, effective coordination with Regional Occupation Center/Program (ROCP), adult schools, Work Experience Education, and Cooperative Work Experience Education programs, and a systematic review of policies and practices addressing barriers to access, including insurance, liability, and other issues.
		2.D	The school master schedule allows students to follow the recommended sequence of CTE courses to complete the selected career path(s).
		2.E	Students are provided with a strong experience in and understanding of all aspects of industry.
		2.F	Technology is incorporated into program instruction.
		2.G	There is collaboration between academic and CTE teachers.
		2.H	CTE courses are industry certified, have been submitted to meet high school graduation requirements, University of California a-g (UC a-g) credit or articulated with a community college.

## 3. Career Exploration and Guidance

Yes	No		
		3.A	Students are counseled regarding: <ul style="list-style-type: none"> <li>• CTE career opportunities.</li> <li>• CTE and academic courses necessary to complete career pathway offerings.</li> <li>• Post-Secondary education and training options</li> </ul>
		3.B	All students have completed a four year career plan that is updated annually.

## 4. Student Support and Student Leadership Development

Yes	No		
		4.A	An official Career Technical Student Organization (CTSO) has been chartered (or in application process) by the State Association.
		4.B	A local CTSO work plan is developed annually and a copy is furnished to local administration by December 15 <sup>th</sup> .
		4.C	Leadership activities are embedded in the CTE curriculum.

		4.D	All students enrolled in CTSO's are affiliated with the State Association.
		4.E	Program meets the needs of Special Population Students (including special education, English Learners, Non-traditional Students, and the general student population).
		4.F	Students are made aware of Non-Traditional CTE offerings and pathways that lead to high skill, high wage, or high demand careers.

### 5. Industry Partnership

Yes	No		
		5.A	The Local CTE Advisory Board is operational and reflects the committee membership as outlined in Education Code §8070 and meets at least once a year.
		5.B	Business/industry is involved in student learning activities.
		5.C	Business/industry is involved in the development and validation of the curriculum.
		5.D	Labor Market Demand has been documented for the program.
		5.E	There are industry certification standards and certificates for students who achieve industry-recognized skill and knowledge requirements.

### 6. System Alignment and Coherence

Yes	No		
		6.A	A Program of Study, with a post-secondary institution, has been developed.
		6.B	Sufficient time is provided for faculty to build cross-segmental and cross-disciplinary collaborations aimed at aligning curricula and programs, as well as models, tools, and professional development to facilitate pathway development.
		6.C	Each CTE program sequence will include at least one district funded CTE course in the industry sector.

### 7. Effective Organizational Design

Yes	No		
		7.A	Opportunities provide for better use of after-school, extended-day, and out-of-school time for career exploration, projects, and work-based learning (WBL) connected to in-class curricula. (See <i>Program of Study Course Sequencing Form</i> , Appendix A, page 183)
		7.B	There are open-entry/open-exit strategies where feasible, in ways that maintain the integrity of CTE courses and course sequences and comply with industry requirements; structures and sequence curriculum in modules or "chunks" tied to jobs with multiple entry and exit points, and with multiple levels of industry-recognized credentials built into the sequencing of the pathway. (See <i>Program of Study Course Sequencing Form</i> , Appendix A, page 183)
		7.C	Provides education and training for students and incumbent workers at times and locations convenient to students and employers, including non traditional time or methods.

### 8. System Responsiveness to Changing Economic Demands

Yes	No		
		8.A	Mechanisms are in place that systematically track labor market demands, maintain the currency of occupational classifications, and ensure that teachers and counselors are informed of new developments in their fields.
		8.B	There is sufficient funding to cover costs of necessary equipment and facilities.
		8.C	There is a partnership among local businesses and local workforce development and educational organizations to provide consistent and reliable data about the regional economic and labor markets for planning programs.

### 9. Skilled Faculty and Professional Development

Yes	No		
		9.A	Every CTE teacher has the appropriate credential for teaching the subject(s) assigned.
		9.B	Based on previous year's records, every CTE teacher, teaching at least half time CTE attends a minimum of four professional development activities.
		9.C	The CTE staff meets a minimum of twice a month. (This criteria does not apply to single person departments – mark column NA = Not Applicable).
		9.D	A written record of minutes of action taken during CTE staff meetings is kept in department files.

### 10. Evaluation, Accountability, and Continuous Improvement

Yes	No		
		10.A	A District CTE Plan is on file with the local administration and a copy is retained in the local department files.
		10.B	Updates to the CTE Plan are sent to the local administrator by February 15 <sup>th</sup> . These updates include: (1) Five Year Equipment Acquisition Schedule; (2) Chart of Staff Responsibilities; (3) CTSO Program of Work; and (4) Advisory Committee Roster.
		10.C	Enrollment report (CDE 101-E1) <ul style="list-style-type: none"> <li>• All CTE courses are properly identified in Data System (including new courses)</li> <li>• Enrollment figures and reports are reviewed by:               <ul style="list-style-type: none"> <li>• Site Staff and district CTE staff.</li> <li>• Site and district advisory committees</li> </ul> </li> <li>• Completed and submitted by <b>October 15 to CDE</b></li> </ul>
		10.D	A follow-up system (including membership in California Partnership for Achieving Student Success (CALPASS)) is used which gathers the following information from program completers: <ul style="list-style-type: none"> <li>• Student placement status in Post-Secondary education or advanced training, in military service, or in employment.</li> <li>• Opinion regarding the value and relevance of the CTE program.</li> <li>• Suggestions for improving the CTE program.</li> </ul>
		10.E	Graduate Follow Up/Placement Report (CDE 101-E2) The Graduate Follow Up data is collected and presented to the CDE <b>by March 10.</b>
		10.F	The CTE department analyzes their student retention numbers each year and develops strategies to help increase retention within the program.
		10.G	All core indicators meet or exceed the state level target.
		10.H	The Expenditure Reports (CDE 101-A and VE-5) are received by the CDE by September 30.

### 11. CTE Promotion, Outreach, and Communication

Yes	No		
		11.A	The CTE program has a recruitment brochure or similar document used to promote the program.
		11.B	The CTE Department(s) conduct recruitment activities.

# ESSENTIAL PROGRAM COMPONENTS (EPC) CORRELATION MATRIX

**Note:** Numbers have been added, if needed, for ease in cross-referencing the documents.

<b>The Nine Essential Program Components</b>	<b>Elements of a High-Quality CTE Program</b> (California State Plan) <b>Page 230</b>	<b>Chapter Headings</b> (CTE Framework) <b>Page 233</b>	<b>Guiding Principles</b> (CTE Framework) <b>Page 234</b>	<b>California CTE State Profile</b> <b>Page 235</b>
<b>1. Standards-Aligned Instructional Materials</b>	2. High-Quality Curriculum and Instruction	1. Chapter One 2. Chapter Two 5. Chapter Five	6. Programs of Study	6. State Standards for CTE 10. Career Academies 12. Academic and CTE Integration
<b>2. Instructional Time</b>		1. Chapter One 2. Chapter Two		
<b>3. Instructional Leadership</b>	1. Leadership at all Levels 5. Industry Partnerships 11. CTE Promotion, Outreach, and Communication	3. Chapter Three 4. Chapter Four	1. Inclusion 2. Students and the Economy 3. Preparation for Success 4. Career Planning and Management	1. Student & Teacher Information 2. Delivery Systems/ School Information Contacts 4. Key State CTE 5. State Agencies 9. High School Redesign 16. Business & Industry Involvement
<b>4. Teacher Qualifications and Professional Development</b>	9. Skilled Faculty and Professional Development 4. Student Support and Student Leadership Development	3. Chapter Three 5. Chapter Five	5. Integration 7. Innovation and Quality 8. Future Orientation	8. State Education & Workforce Agenda 17. Educator Development
<b>5. Student Achievement Monitoring System</b>	10. Evaluation, Accountability, Continuous Improvement	2. Chapter Two	3. Preparation for Success	14. Career Guidance and Advisement 15. Technical Skills Assessments
<b>6. Instructional Assistance and Teacher Support</b>	2. High-Quality Curriculum and Instruction 3. Career Exploration and Guidance 8. System Response to Changing Economic Demands	3. Chapter Three		7. Program Approval/ Quality Control
<b>7. Teacher Collaboration</b>	7. Effective Organizational Design	4. Chapter Four	4. Career Planning and Management 5. Collaboration	
<b>8. Course Sequencing, Scheduling, and Pacing</b>	6. System Alignment and Coherence	1. Chapter One 2. Chapter Two 4. Chapter Four	4. Career Planning and Management	11. Role of Career Clusters 13. Secondary/ Post-Secondary Linkages
<b>9. Fiscal Support</b>		3. Chapter Three		3. Funding/Financing for CTE

# ESSENTIAL PROGRAM COMPONENTS (EPC) CORRELATION MATRIX (continued)

The Nine Essential Program Components	Multiple Pathways (Alliance for Excellent Education) Page 238	2008-2012 Local Plan Carl D. Perkins CTE Improvement Act of 2006 Page 239	Policy Framework for CTE (CCSESA) Page 244	DAIT Essential Program Components Page 249	Single School Plan for Student Achievement Page 252
<b>1. Standards-Aligned Instructional Materials</b>	2. Connect Academics to the Real World 3. Challenging Academic Component	1. Alignment of the Career Technical Education Program	1. Standards-Based Curriculum and Instruction	B. Alignment of Curriculum, Instruction & Assessment to State Standards	4. Standards, Assessment, & Accountability 6. Opportunity and Equal Educational Access
<b>2. Instructional Time</b>			1. Standards-Based Curriculum and Instruction		7. Teaching and Learning
<b>3. Instructional Leadership</b>		3. Guidance and Counseling	2. Teachers and Administrators 3. Community Alliances	A. Governance D. Parent and Community Involvement E. Human Resources	1. Involvement 2. Governance and Administration
<b>4. Teacher Qualifications and Professional Development</b>	6. Demanding Technical Component	4. Comprehensive Professional Development	1. Standards-Based Curriculum and Instruction 2. Teachers and Administrators	G. Professional Development	5. Staffing and Professional Development
<b>5. Student Achievement Monitoring System</b>	4. Improve Student Achievement	5. Accountability and Evaluation of CTE programs	4. Accountability	E. Data Systems and Achievement Monitoring	4. Standards, Assessment, and Accountability
<b>6. Instructional Assistance and Teacher Support</b>	7. Work-Based Learning Component 8. Supplemental Services	2. Support and Services for Special Populations	2. Teachers and Administrators	B. Alignment of Curriculum, Instruction, & Assessment to State Standards	7. Teaching and Learning
<b>7. Teacher Collaboration</b>			2. Teachers and Administrators 3. Student Support		
<b>8. Course Sequencing, Scheduling, and Pacing</b>	1. Preparation for College and a Career 3. Full Range of Post-Secondary Opportunities				7. Teaching and Learning
<b>9. Fiscal Support</b>		6. Use of Funds	6. Funding	C. Fiscal Operations	3. Funding

# GETTING STARTED

The journey for the instructional leader begins with an understanding of the task at hand and the available materials, including the information and resources available in this CTE Course of Study. The first task is to review the Eleven High-Quality Elements from the new State CTE Plan found on page 9. Next, review the information for each element under the topic, *Implication for Your CTE Plan*. In this preparation stage, it is also imperative that the instructional leader have an understanding of the Industry Sectors, Pathway Standards, and Foundation Standards found in the *California Career Technical Model Curriculum Standards*.

Now it's time to organize a committee that will provide leadership for writing the school/district CTE plan or standards-aligned CTE curriculum. This committee should consist of a group of educators committed to completing the task and include CTE teachers, core academic teachers, counselors, and CTE administrators. Ideally, the team will be comprised of five to ten members.

The committee's first step is to become aware of the available resources, including an understanding of the *California Career Technical Model Curriculum Standards* and the contents in this course of study. The committee should then gather information concerning the present status of all CTE courses. This could be accomplished using the *CTE Quality Program Checklist* found on page 135. Reviewing the survey results will provide the committee with an understanding of program needs and which Eleven High Quality Element(s) is the highest priority.

The next step is the development of a plan to affect the needed change in the school's/district's Career Technical Education program. The following checklist of suggested activities summarizes the initial steps for getting started.

## Role of Instructional Leader

No.	Steps To Follow	Priority
1	Gain an understanding of information in the California Career Technical Model Curriculum Standards and CTE Course of Study.	
2	Create a leadership team that includes CTE and academic core teachers, counselors, and CTE administrator.	
3	Meet with your team to clarify their tasks and your role in supporting the work of the team. Your team will use this document to guide their work.	
4	Use the CTE Quality Program Checklist on page 135 to determine the present status of the CTE program.	
5	Review the results of the survey and prioritize program needs, based on the Eleven High-Quality Elements.	
6	Provide time and opportunity for your team to build a collaborative culture as they craft the CTE literacy plan.	
7	Set CTE team meeting goals, timelines, and schedules.	



## Creating a Standards-Aligned CTE System

A “How-To” guide for developing a Standards-aligned Career Technical Education system. This one-stop resource provides instructional leaders with a step-by-step methodology for leading program development, refinement, and implementation. The intent is to simplify this process by merging critical information sources with graphic organizational templates designed to ensure all elements of California’s system to improve student achievement are in place.

In this guide you will find an easy to follow step-by-step blueprint including:

- important CTE information for instructional leaders
- checklists for instructional leaders
- planning and course writing templates
- professional resources and websites

