CAREER TECHNICAL EDUCATION

A COURSE OF STUDY

Creating a Standards-Aligned Career Technical Education System





CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

CCSESA California County Superintendents Educational Services Association

Creating a Standards-Aligned CTE System

A Guide for

Implementing Systems Change in a Career Technical Education Curriculum

Aligned to the California Career Technical Education Model Curriculum Standards, the Content Standards for California Public Schools, and the 2008-2012 California State Plan for Career Technical Education

Contents at a Glance

FOREWORD

The California County Superintendents Education Services Association (CCSESA) is an organization consisting of the County Superintendents of Schools from the 58 counties in California working in partnership with the California Department of Education. The Curriculum and Instruction Steering Committee (CISC) and Student Program and Services Steering Committee (SPSSC) are subcommittees of CCSESA, consisting of county office assistant superintendents and directors with the mission of focusing on the issues of curriculum, instruction, and professional development.

On behalf of the California County Superintendents, we are pleased to introduce the latest Career Technical Education (CTE) Course of Study developed by the Curriculum and Instruction Steering Committee and Student Program and Services Steering Committee. A County Course of Study: Creating a Standards-Aligned CTE System serves as a companion document to the Career Technical Education Framework for California Public Schools and provides a guide for developing a successful standards-aligned curriculum for Career Technical Education (CTE). This document is organized around the "Eleven Elements of a High-Quality CTE System," identified in the 2008-2012 California State Plan for Career Technical Education and the "Nine Essential Program Components." It provides a roadmap that will assist instructional leaders as to ensure that CTE courses are aligned to the Model Curriculum Standards.

The County Superintendents of California are pleased to provide leadership and support to curriculum development efforts in the schools of California. Using this guide, teachers and administrators have a framework for integrating the critical components of an effective standards-aligned Career Technical Education program.

California County Superintendents Educational Services Association (CCSESA)

Jim Vidak, 2009 Chair County Superintendent of Schools Tulare County	**Julian D. Crocker**, 2008 Chair County Superintendent of Schools San Luis Obispo County

Curriculum and Instruction Steering Committee (CISC)

Linda Aceves, 2009 Chair Assistant Superintendent of Schools Santa Clara County Office of Education	**Henry Mothner,** 2008 Chair Director of School Improvement Los Angles County Office of Education

Student Programs and Services Steering Committee (SPSSC)

Cathy Bean, 2008/09 Chair Deputy Superintendent El Dorado County Office of Education	**Cecilia Massetti**, 2008 Past Chair Associate Superintendent Madera County Office of Education

ACKNOWLEDGEMENTS

Development Team

Editor:	Donald Corrie	Tehama County Department of Education
	Ronda Adams (Co-chair)	Yolo County Office of Education
	Jon Sapper (Co-chair)	Humboldt County Office of Education
	Ray Bianchi	Tehama County Department of Education
	Larry Champion	Tehama County Department of Education
	Eric Dyer	California Department of Education
	Pamela Good	Los Angeles County Office of Education
	Charlie Hoffman	Shasta County Office of Education
	Janet Harden	Solano County Office of Education
	Steve Pinning	San Diego County Office of Education
	Michele Fagundes	Merced County Office of Education
	Valerie Vuicich	Fresno County Office of Education
Special Appreciation:	Patrick Ainsworth	California Department of Education
Graphics Design:	Yamilet Gaitan	Sacramento County Office of Education

Contributors from the CCSESA CISC/SPSSC CTE State Committee

Ronda Adams (CISC)	Co-Lead	(530) 668-6700	adams@ycoe.org
Jon Sapper	Co-Lead	(707) 445-7018	jsapper@humboldt.k12.ca.us
Marilynn Keeble	SPSSC	(530) 532-5757	mkeeble@bcoe.org
Cecilia Massetti	SPSSC	(559) 662-4676	cmassetti@madercoe.k12.ca.us
Dave Geck	Region 1	(707) 262-4101	daveg@lake-coe.k12.ca.us
Nona Olsen	Region 1	(707) 467-5000	nolsen@mcoe.us
Brian Ausland	Region 2	(530) 532-5757	bausland@bcoe.org

Contributors from the CCSESA CISC/SPSSC CTE State Committee			
Paul Watters	Region 2	(530) 532-5757	pwatters@bcoe.org
Carol Johnston	Region 3	(916) 228-2685	jjohnston@scoe.net
Janet Harden	Region 4	(707) 399-4848	jharden@solanocoe.net
Tammie Holloway	Region 4	(707) 253-6830	tholloway@ncoe.k12.ca.us
Mark Hodges	Region 5	(831) 466-5760	mhodges@santracruz.k12.ca.us
Alice Talnack	Region 5	(831) 466-5700	stalnack@santacruz.k12.ca.us
Bryan Wall	Region 5	(831) 466-5764	bwall@santacruz.k12.ca.us
Doug Martin	Region 6	(209) 468-5982	dmartin@sjcoe.net
Michele Fagundes	Region 7	(209) 381-6678	MFagunde@mcoe.org
Holly Newlon	Region 7	(209) 381-6740	hnewlon@mcoe.org
Valerie Vuicich	Region 7	(559) 497-3850	vvuicich@fcoe.org
Jan Clevenger	Region 8	(805) 964-4711	jclevenger@sbceo.org
Sheryl Malone	Region 8	(805) 964-4711	smalone@sbcoe.org
Byron Fairchild	Region 9	(714) 547-9986	BFairchild@access.k12.ca.us
Alisa McCord	Region 9	(714) 327-1063	amccord@ocde.us
Steve Pinning	Region 9	(858) 569-3116	spinning@sdcoe.net
Daria Waetjen	Region 9	(714) 327-1050	dwaetjen@ocde.us
Jim Meadowcroft	Region 10	(760) 938-2939 ext.244	jim_meadowcroft@inyo.k12.ca.us
Leslie Rodden	Region 10	(909) 386-2636	Leslie_Rodden@sbcss.k12.ca.us
Ken Taylor	Region 10	(661) 636-4716	ketaylor@kern.org
Pamela Good	Region 11	(562) 922-6286	good_pamela@lacoe.edu

Table of Contents

Section 1

The Eleven Elements of a High-Quality CTE Plan

Section 2

Planning Templates for Developing A Standards-Aligned CTE System

Section 3

Standards-Aligned Course Writing Template and Sample Completed CTE Course Using the Template

Appendix A

Sample Documents Supporting the Essential Program Components

Appendix B

Reference Materials for Career Technical Education

Appendix C

Research Document Supporting CTE

INTRODUCTION

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 Elements of a High-Quality CTE System," identified in the State Plan, establishes 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 Eleven High-Quality Elements and 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; model use of student data to inform instruction; promote enhanced teacher qualifications; 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.

Organization of the Course of Study

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

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

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.

Correlation to the Essential Program Components

Essential Program Component Three
Instructional Leadership

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: Administrative and Supportive Services (CTE Framework pages 70-97)

Information for the instructional leader

Implications for Your CTE Plan

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: • Curriculum is current, relevant to career development, and rigorous • Knowledge and skills taught are part of a planned sequence of courses • Industry standards and needs have been addressed in the curriculum	
1.2	Ensure that CTE teachers are aware of the curriculum alignment tools available, including: • Standards Alignment Chart in the back of the Career Technical Education Model Curriculum Standards document • Hot List of English/language arts and math standards discussed in High-Quality Element Two. • CTE Online discussed in High-Quality Element Two.	

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

Support Documents for each High-Quality Element (Appendix A).

Reference Documents supporting CTE programs (Appendix B).

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 Education 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 Education 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 Education 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.	

CCSESA
California County Superintendents
Educational Services Association
1121 L Street, Suite 510 • Sacramento, CA 95814
(916) 446-3095 • www.ccsesa.org

CAREER TECHNICAL EDUCATION WHITE PAPER

Governor Schwarzenegger's Career Technical Educational Summit
March 13, 2007

Under Governor Schwarzenegger's leadership, California is experiencing a critical resurgence in Career Technical Education (CTE). This movement can be implemented most effectively by a statewide, systemic effort that includes business/industry, institutions of higher education, school districts, county superintendents of schools, and regional occupational center/programs (ROC/Ps). This vital CTE effort requires alignment and coordination of business/industry goals and needs, state academic and CTE standards, financial resources, facilities and equipment, curricula, teacher recruitment and credentialing, and professional development. Because the county superintendents currently provide leadership in all of these areas, they are positioned to be full partners in communities throughout the state to implement comprehensive quality Career Technical Education in California. The following items are necessary components of an effective CTE system:

- **Universal Access:** All students, regardless of their educational setting, must have the opportunity to participate in high quality CTE programs with clear career pathways that include academic rigor and real-world relevance. These programs must be available in a variety of settings such as isolated rural areas, continuation high schools, youth detention facilities, as well as comprehensive high schools.

- **Integrated Curriculum:** All students deserve to have the opportunity to participate in courses that are rigorous and standards-aligned, and that integrate academic content and career-related technical skills. These courses can occur in a variety of formats and provide students with instructional environments that integrate real world content and applications with academic skills. These courses will also prepare students to perform successfully on state and federal assessments. If all courses teach the standards in real world context, students will be better prepared for ongoing education and participation in the workforce.

- **Sequenced Coursework:** CTE must offer both introductory and concentrated courses in the various fields and industry sectors; advanced training leading to industry certification and employment; and college preparation. Sequenced coursework requirements must be flexible to ensure access for all students including those in rural educational settings and those in alternative education programs. One way the CTE course sequencing and flexibility requirements are currently met is to offer CTE courses in high schools that provide students with an introduction and broad exposure to an industry sector, with course concentrations and advanced training provided through regional programs offered by ROC/Ps. This is an effective model that can meet the demands of a modern comprehensive CTE program.

- **Articulated Coursework:** Articulation agreements among the K-12, community college, CSU, and UC systems are fragmented, locally defined, and not transportable across the major educational agencies. County superintendents are in the strategic position to facilitate and support course articulation through their participation on workforce development councils, acting as the primary education liaison to the business community in many areas.

- **Guidance Counselors:** As CTE opportunities are expanded, school counselors must play a pivotal role in guiding students and parents through a more complex system of education options. Counselors must assist every student in setting obtainable goals and building a relevant career plan.

- **Workforce Readiness Certificate:** A Governor-sponsored, state-adopted Workforce Readiness Certificate should be established to document that a student has mastered the skills required by business and industry for entry into the work place. County superintendents, in partnership with business and industry and local school districts, would establish the criteria and develop this Workforce Readiness Certificate. This certificate would document to business and industry that students are completing high school with the appropriate workforce skills. Business and industry would be asked to give hiring priority to students entering the workforce who have obtained the Workforce Readiness Certificate.

- **Teacher Credentialing and Preparation:** Teachers must be prepared to enhance and strengthen the delivery of high quality instruction aimed at meeting the needs of all students, whatever their career path. CTE teacher credentialing requirements must be streamlined and strengthened to bring highly skilled industry professionals into the classroom as teachers. Professional development for teachers should focus on appropriate integration of core academic skills into CTE courses and use of applications from CTE in core academic courses.

- **Facilities and Equipment:** Students must have access to state-of-the-art equipment and classrooms that simulate the workplace environment. The required investment in the infrastructure will be costly and will require the full cooperation of educational systems to form partnerships with business, industry and multi-use agreements. Middle schools, high schools, and community colleges must establish ways to maximize resources. Industry partners must contribute real life work environments for CTE community classroom instruction to be relevant to labor force needs. Providing state-of-the-art equipment and facilities is essential in offering effective CTE coursework irrespective of whether the administering agency is a county superintendent or a school district.

STATE SUPPORT FOR A RIGOROUS CTE PROGRAM

"California Education Code Section 51228 states, 'Each school district maintaining any of grades 7 to 12 inclusive, shall offer to all otherwise qualified pupils in those grades a course of study that provides an opportunity for those pupils to attain entry-level employment skills in business or industry upon graduation from high school. Districts are encouraged to provide all students with a rigorous academic curriculum that integrates academic and career skills, incorporates and applies learning in all disciplines, and prepares all pupils for high school graduation and career entry."

"The California Department of Education (CDE) has incorporated these requirements into its official vision 'To create a dynamic, world-class education system that equips all students with the knowledge and skills to excel in college and careers and excel as parents and citizens.' Most of the academic structure across the state focuses on preparing students for college, including interventions for students in the reading and mathematics courses required to earn a high school diploma, that gateway to college success. The other 50 percent of this charge, to equip *all* students with the knowledge and skills to excel in careers, falls primarily to CTE."

(Career Technical Education Framework for California Public Schools, page 4)

CTE offers a unique opportunity for students to acquire information, utilize this information through hands-on activities, and apply the knowledge through "real-world" applications of skills learned in academic courses. CTE courses also provide opportunities for students to:

1. Acquire the technical skills required for direct employment in business/industry;
2. Maximize achievement through contextual learning;
2. Learn to function efficiently in predictable and unpredictable circumstances;
4. Experience mentorship by an adult;
5. Gain employment experience and references for job applications;
6. Increase potential for high school graduation;
7. Prepare for success in postsecondary training and education.

(Career Technical Education Framework for California Public Schools, page 4)

In preparing students for the workforce of the twenty-first century, CTE teachers realize that there are new challenges facing this workforce, including the need for: (1) an increase in the quantity and quality of skilled workers; (2) employees who are lifelong learners; and (3) flexible, adaptable education, and training systems. The *California Career Technical Education Model Curriculum Standards* have been "Designed to provide educators with rigorous, balanced standards reflecting both the essential knowledge to achieve a seamless transition to careers or postsecondary education or training and the specific skills required for each of the state's 58 career pathways."

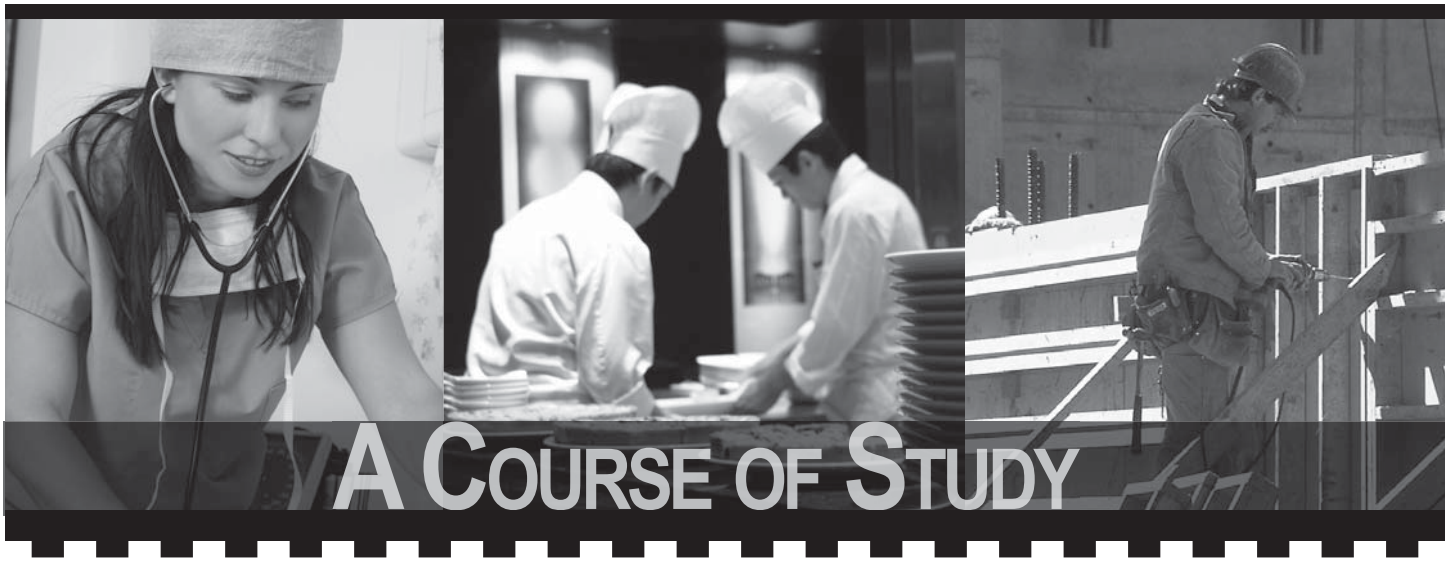
(Career Technical Education Framework for California Public Schools, pages 2 and 3)

"California now faces a two-fold call to action: (1) to ensure that every CTE class and program meets the State Board of Education's rigorous new standards for high-quality, integrated CTE course work; and (2) to inform the public and stakeholders in middle schools, high schools, postsecondary education and training, and business and industry that CTE presents an educationally and economically sound choice for students."

(*Career Technical Education Framework for California Public Schools,* page 10)

Section 1

Step-by-Step Process for Developing A Standards-Aligned CTE System



CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

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)

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, page 48).

Essential Program Component Four: School Administrator Instructional Leadership Training

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.

Essential Program Component Nine: Fiscal Support

Appropriate use of both general and categorical funding should support the long and short term goals of the Career Technical Education program. Acquisition of funding from a variety of sources can enhance the quality of and demonstrate support for CTE programs.

Career Technical Education Framework for California Public Schools

Supporting information for High-Quality Element One is found in
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)
Chapter 4: Community Involvement and Collaboration (CTE Framework, pages 98-114)

Implications for Your CTE Plan

Effective, knowledgeable leadership is the foundation on which substantial high quality programs are built. Although much of the construction and 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.

Like the content standards for students and professional standards for teachers, the California Standards for Educational Leadership (CPSELs) lay out the field of work in a thorough and balanced way, and include the following six elements:
A school administrator:

1. Is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.
2. Is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.

3. Is an educational leader who promotes the success of all students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.
4. Is an educational leader who promotes the success of all students by collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources.
5. Is an educational leader who promotes the success of all students by modeling a personal code of ethics and developing professional leadership capacity.
6. Is an educational leader who promotes the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

"Leadership for CTE resides at all levels – state, regional, and local – in both the K-12 and the community college systems. Aligning efforts across systems to create seamless pathways throughout student careers requires a chain of leadership from the state to the classroom" (California State Plan for Career Technical Education, page 46). Today's leadership must effectively utilize all of the CTE support structures and documents to achieve this seamless system including:

- CTE and core Content Standards.
- Assessment tools
- Use of data for course refinement
- Rigorous and relevant instructional methodology.
- Powerful professional development for all educators.
- Ed Code and laws related to CTE courses.

Related to Curriculum

Instructional leaders:

- Understand the importance and process of integrating the Pathway and Foundation Standards into CTE courses and programs.
- Become familiar with the California Career Technical Educational Model Curriculum Standards.
- Understand that: (1) Pathway Standards are organized around the fifteen industry sectors and address the skills specific to the student's career; (2) Foundation Standards address the core Content Standards (1.0 and 2.0), as well as the soft skills/work behaviors (3.0 – 11.0); and (3) Industry Standards include the business/industry skills necessary for job placement.
- Understand the importance and process of core academic teachers utilizing applied learning strategies that bring real world and industry-based applications to the curriculum, facilitate ways for academic teachers to learn about industry applications through professional development activities, and encourage academic and CTE teachers to collaborate in order to develop classroom lessons and projects that integrate academic and technical knowledge and skills.
- Are aware of different tools available to the CTE instructor when aligning CTE courses to Standards. For example, the Career Technical Education Model Curriculum Standards document contains a chart listing the Content Standards that apply to each pathway. In High-Quality Element Two, a Hot List of Content Standards lists the English/Language Arts and Mathematic Standards that are most often taught in CTE courses. CTE Online, reviewed in High-Quality Element Two, is an online curriculum development and alignment tool that provides the instructor with an easy process for writing a standards-aligned CTE course.

Effective Practices

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

The 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 have on output of water. This became a practical application of a core Content Standard.

For more information, including the *Daily Lesson Plan Format,* contact:
Alliance for Education: http:www.sbcalliance.org

- Implement a consistent cyclical assessment/improvement process by planning a cycle of assessment, data analysis, data-based decision-making, and subsequent alterations in practice and policy. Provide opportunity for CTE teachers to review CST, CAHSEE, and local assessment data, analyzing student and program performance in respect to the goals set in the CTE plan. Next, revise the CTE plan to meet student and program needs identified through the analysis of assessment data. (Career Technical Education Framework for California Public Schools, pages 79-81)
- Support clearly defined professional development needs of the CTE teachers based on implementing best practices in classroom instruction, integrating Pathway and Foundation Standards into the CTE courses, and staying current with business and industry innovations. Understand that professional development outcomes focus on the results of the training and measurable program outcomes for teachers. (Career Technical Education Framework for California Public Schools, pages 81-83)
- "Invest in support of CTE leadership at the local level to ensure that CTE administrators, coordinators, and counseling and instructional leaders have sufficient time and resources to implement system improvement and work with their counterparts in other programs." (California State Plan for Career Technical Education, page 52)
- Support teacher and student participation in Career Technical Student Organizations (CTSO's) as a primary venue for student leadership training and experience. CTSO's provide a vehicle for students to: (1) apply and integrate academic and CTE knowledge and skills; (2) network with other students, learning from each other and business representatives; and (3) provides motivational and personal growth experiences for students. (See Career Technical Student Organizations (CTSO) Appendix A, page 176)

Related to Instruction

Instructional leaders:

- Ensure that teachers incorporate differentiated instruction techniques of: (1) pacing; (2) varying the complexity of instruction; (3) grouping students based on types of learning styles and needs; and (4) grouping students based on the type of instruction. (Career Technical Education Framework for California Public Schools, pages 74-75) Know that teachers are aware of the following three differentiated instructional techniques: (1) Content Differentiation: varying ways students can access information; (2) Process Differentiation: giving students alternative ways of making sense of ideas; and (3) Product Differentiation: providing students with multiple ways of expressing what they know. (Designing Multidisciplinary Integrated Curricula, A Practical Manual ConnectEd, page 27)

- Ensure that CTE teachers address the learning needs of English Learners (ELs) and other significant subgroups, being sensitive to: (1) language and cultural issues affecting student performance; (2) recognizing when cultural differences or language barriers are inhibiting understanding; and (3) using multiple modes of learning and assessment as needed. (Career Technical Education Framework for California Public Schools, page 71)

Related to Course Sequencing

Instructional leaders:

- Understand the ramifications of AB 2448, a new law requiring ROCP programs or centers to develop a plan for establishing course sequences that involve elementary schools, middle schools, high schools, and postsecondary partners. Understand that this law addresses: (1) plans for developing and validating a middle school to community college sequence of courses; (2) adult participation in ROCP courses; (3) Employer Advisory Board regulations; (4) students under the age of 16 in ROCP; and (5) Academic Progress Reports.
- Provide universal access to all CTE programs, accommodating the needs of every student in the school or district. Realize that universal access means providing physical and instructional adaptations to meet all students' individual learning needs. (Career Technical Education Framework for California Public Schools, page 71)
- "Invest in the professional development of administrators at all levels regarding the benefits of CTE and the management of the CTE program within the larger context of educational improvement to serve all students." (California State Plan for Career Technical Education, page 62)
- Ensure that all students have the opportunity to develop a career goal through access to career information and adult guidance concerning course and program selection. Understand that counselors must know the sequence of CTE courses, the importance of placing students into introductory courses prior to scheduling them into capstone courses, and how CTE has increased course rigor through an intense focus on both the Pathway and Foundation Standards. Ensure that counselors are prepared to help all students develop a class schedule that incorporates CTE programs, even if the student is planning on attending a community college, entering the work force, fulfilling UC/CSU "a-g" requirements, or receiving intervention assistance during high school. (Career Technical Education Framework for California Public Schools, pages 87-90)
- Ensure that CTE programs are building community and business/industry partnerships, as an essential component for programs that provide "learning-by-doing" opportunities for students. Understand that county offices of education, districts, administrators, counselors, teachers, and technical support personnel, families, and students are essential to CTE program success. Understand that partnerships with postsecondary education, workforce investment boards, youth councils, apprenticeship programs, ROCPs, local businesses and industry, adult education programs, WorkAbility programs, and military programs can enrich, enhance, and provide relevant context and content for vibrant CTE instruction. Develop and engage leadership at all levels of partner organizations to encourage bottom-up as well as top-down participation. (Career Technical Education Framework for California Public Schools, pages 98-99)
- Understand that community partners can provide critical information and resources for CTE programs knowing that these programs create the future workforce for business and industry. Understand that business and industry need to be substantial stakeholders in CTE and the instructors must work with business partners to create strategic plans that form the basis of effective business-education partnerships. (Career Technical Education Framework for California Public Schools, pages 107-109)

Related to Evaluation

- Develop a process and format for evaluating CTE courses, reviewing course sequences, Standards alignment, pacing guides, teacher implementation of standards, lesson plans aligned to standards, benchmark assessments, and documentation of the student's mastery of standards. (See CTE Quality Program Checklist, Appendix A, page 135)

Related to Financial Support

Instructional leaders:

- Create effective CTE plans that include a robust strategy for financial support including: (1) use of federal funds and state allocations; (2) application for federal, state, and private discretionary grant funds; (3) local business support, community philanthropy, and fundraising; (4) general funds; and (5) specific funding issues, such as facilities and equipment. (Career Technical Education Framework for California Public Schools, pages 76-79)
- Understand that federal funds have been traditionally available for CTE programs beginning with the Smith-Hughes Act of 1917 and currently embodied in the Carl D. Perkins Vocational and Technical Education Act of 2006. Understand that additional funding sources include: (1) ROP; (2) Apprenticeships; (3) Secondary Specialized Programs; (4) Partnerships Academies; (5) Agriculture Incentive Grants; (6) SB 70 funds; (7) Title I; (8) special education funding; and (9) special grants. These funds are used to strengthen the academic and career technical skills of CTE students, improve use of technology, provide professional development, and expand the quality of CTE programs.
- Understand that CTE Program funding has become flexible. As of fiscal year 2009-2010, and extending to fiscal year 2013-2014, the State of California has redefined State Categorical Funding making it flexible under the following three-tier system:

  Tier One: No reduction in funding and no flexibility (e.g., No Career Technical Education programs are listed)

  Tier Two: Reduction in funding and no flexibility (e.g., Partnership Academies, Apprenticeship Programs, and Agriculture Education)

  Tier Three: Reduction in funding and total flexibility for the district to use categorical funds as it wishes. (e.g., ROP)

  Note: A complete listing of all affected State Categorical Funding can be referenced at the CDE web site. (www.cde.ca.gov)

- Understand that federal CTE funding (Perkins) is not effected by the state flexibility program, however a school district's Perkins plan may have to be edited to reflect shifts in state funds that support the total district Perkins plan. Districts are encouraged to use the guidelines presented in the CTE Course of Study to develop district programs and Career Technical Education plans allocating available funding as directed by each district school board relative to the flexibility funding options.
- Understand that due to current funding flexibility, consideration should be made to increase support for career technical education through flexible sources SBX 34, demonstrating the integration of CTE and core academics.
- Understand that CTE leaders have the opportunity to apply for competitive federal, state, and private grant funds by first locating available grants using various websites such as www.grants.gov and www.cde.ca.gov/fg/fo/of/ap. Three funded grants that have provided significant support for CTE programs throughout California include:

1. Smaller Learning Communities Grant www.ed.gov/programs/slcp/index.html
2. California's Specialized Secondary Program Grant www.cde.ca.gov/ci/gs/hs/sspgen.asp
3. California Partnership Academies Program www.cde.ca.gov/ci/gs/hs/cpagen.asp

- Understand that schools may raise money for CTE programs through fundraising activities such as auctioning a student-built home, reconditioned automobiles, providing tax preparation services, etc. Additionally, CTE Booster Clubs, advisory boards, and/or community businesses may support CTE programs by providing additional funds or large discounts for needed equipment and supplies.
- Understand that the district must be committed to providing a rigorous CTE program and/or building comprehensive pathways/academies that will ensure that support for these programs are embedded in the general fund. Understand that CTE courses are the primary delivery method for meeting the California Education Code mandate of preparing students for success in the world of work.
- Understand the budget building process and is committed to student progress on the state adopted Standards. Understand that: (1) the district has fiscal policies and a fiscal resource allocation plan that is aligned with measurable student achievement outcomes and instructional goals; (2) the district and school plans align categorical expenditures with achievement and instructional goals; and (3) the Local Educational Agency (LEA) plan details fiscal plans and expenditures that are tied to achievement goals and priorities.
- Understand the following budget building steps:
  1. Complete a needs assessment for each of the budget Standards. (See Fiscal Plan Needs Assessment, Appendix A, page 138)
  2. Establish priorities, identify resources, align the plan and budget, then monitor and adjust as needed. (See Budget Planning Road Map, Appendix A, page 140)
  3. Determine the funding sources for each item in the budget, including untapped resources for CTE programs. (See Budget Planning Matrix – Uses and Funding Options, Appendix A, page 141)

Related to the Employer Advisory Board

Instructional leaders:

Ensure that the CTE Employer Advisory Board consist of the appropriate members and advisory board meetings and meeting minutes are organized/focused on student, program, and industry needs and goals. Know that an effective advisory board develops and implements an annual action plan that reflects long-term and short-term objectives through:

- Curriculum Development
- Community and Public Relations
- Student Organizations
- Resources
- Program Evaluation
- Recruitment and Job Placement
- Professional Development
- Legislation and Advocacy

(Career Technical Education Framework for California Public Schools, pages 103-105)

(See Employer Advisory Board Guidelines, Appendix A, page 143)

Summary
To be an effective resource to faculty, leadership must have knowledge of curriculum, instruction, course sequencing, evaluation, financial support, and Employer Advisory Boards. On a schoolwide basis, instructional leaders put in place a process for sequencing CTE courses, ensure universal access for all students, develop a procedure where all students have the opportunity to develop career goals, and incorporate/develop business and industry partnerships.

Role of Instructional Leader

Leadership at All Levels

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:

No.	Steps To Follow	Completed
Related to the Curriculum		
1.1	Ensure that CTE teachers integrate Pathway and Foundation Standards into CTE course curriculum.	
1.2	Implement a cycle of assessment and data analysis resulting in program modifications based on the assessment data.	
1.3	Ensure that professional development plans focus on best practices, integrating standards into course curricula, and current innovations in business/industry.	
1.4	Ensure that core academic teachers, working in pathway programs and academies, have appropriate and substantial professional development to better understand the real world application of their academic disciplines (e.g., summer externships in business/industry).	
1.5	Ensure that leadership is an integral component in every CTE course and affiliation with the appropriate Career Technical Student Organization (CSTO) (See Career Technical Student Organizations, Appendix A, page 176)	
Related to Instruction		
1.6	Ensure that teachers are integrating differentiated instructional techniques into the curriculum meeting the needs of EL students and other significant subgroups.	
Related to Course Sequencing		
1.7	Ensure that all CTE courses are part of a course sequence leading to postsecondary education, industry certification, and/or high-skilled employment.	
1.8	Monitor the CTE program to ensure that all students have access to all CTE programs.	
1.9	Ensure that students have the opportunity to develop a career goal by accessing career information and receiving adult guidance for courses and programs.	
1.10	Ensure that CTE programs are building community, business, and/or industry partnerships.	
1.11	Ensure that CTE teachers understand the role of community partners and how these partners can provide help for CTE programs.	
Related to Program Evaluation		
1.12	Ensure that a process is in place to evaluate CTE programs on a regular basis. (See CTE Quality Program Checklist, Appendix A, page 135)	
Related to Financial Support		
1.13	Develop a CTE plan that includes a robust strategy for financial support.	
1.14	Ensure that CTE is represented during the district's budget building process, providing assessment data that demonstrates the importance of CTE programs for increased student achievement.	

No.	Steps To Follow	Completed
1.15	Ensure that the needs of CTE programs to support student achievement are reflected in the school/district budget.	
1.16	Ensure that federal funds are used to strengthen the academic and career technical skills of CTE students and staff is aware of federal, state, and discretionary grant funds and understands the process/procedure for writing a grant.	
1.17	Ensure that district leadership is committed to using general fund dollars to support a rigorous CTE program.	
1.18	Ensure that leadership distributes and evaluates assessment of budget needs prior to developing the budget. (See Fiscal Plan Needs Assessment, Appendix A, page 138)	
1.19	Ensure that the educational community establishes program priorities, identifies resources, and aligns the budget to identified priorities. (See Budget Planning Road Map, Appendix A, page 140)	
1.20	Ensure that leadership reviews all possible funding sources prior to building the budget. (See Budget Planning Matrix – Uses and Funding Options, Appendix A, page 141)	
Related to the Employer Advisory Board		
1.21	Ensure that Employer Advisory Boards: • Consist of the appropriate membership. • Focus on program, student, and industry needs. • Create an agenda and minutes that reflect the goals of the meeting. (See Employer Advisory Board Guidelines, Appendix A, page 143)	

Quality Program Checklist (Appendix A, page 135)

No.	Quality Program Indicators	Completed
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.	

Suggested Support Documents for High-Quality Element One

- Complete the High-Quality Element One (Leadership at all Levels) 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.

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 also 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 (NATEF) 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 110, 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). 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.*

Aligning Courses Using CTE Online

CTE Online (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 *California Career Technical Education Model Curriculum Standards* document. (See *CTE Foundation Standards, Appendix A, page 156 and CTE Pathway Standards*, Appendix A, page 157)	
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 *CTE Aligned Content Standards Chart,* Appendix A, page 159, and/or *CTE "Hot List" for California Content Standards*, Appendix A, page 160)	
2.4	Ensure that CTE instructors identify Content Standards that are listed on the STAR and CAHSEE blueprints. (See www.cde.ca.gov)	
2.5	Ensure that CTE instructors have a procedure for writing their standards-aligned CTE course. (See *Writing a Standards-aligned Course: A Step-by-Step Process*, Appendix A, page 164)	
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 *Standards-Aligned Writing Application Form*, Appendix A, page 162)	
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 *Sample Course Using CTE Online*, Appendix A, page 165)	
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 *Unpacking the Standards*, 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 *Career Technical Education Framework for California Public Schools*, pages 137-445)	
2.17	Ensure that CTE teachers design assessments that measure the extent to which students have mastered the standards. (See *Designing Standards-based Assessments*, Appendix A, page 170)	
2.18	Ensure that CTE teachers design lessons beginning with the identification of the standard. (See *Lesson Plan Format Appendix A*, 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 *Examining Student Work*, Appendix A, page 172)	
2.23	Ensure that CTE teachers use assessment data to make immediate modifications to their instructional strategies. (See *Using Assessment Data to Drive Instruction*, 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 *Sample Pacing Guide for CTE Courses*, 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 courses	
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

Instructional Practices

Instructional Time

- 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.

ESSENTIAL PROGRAM COMPONENT 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)

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Three is found in:
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)

Implications for Your CTE Plan

"I want to be a fireman when I grow up," states the kindergarten boy on his first day of school. "No, I want to be a nurse and help the sick," states the kindergarten girl. Entering school at the age of five, many children already have a vision, real or imaginary, about their future careers. During a student's school life, it is the responsibility of teachers, counselors, administrators, community members, and parents to provide students with career guidance opportunities, leading each student towards making personal career choices that allow him/her to be successful in life and towards the many opportunities available to them in the working world.

"The process of career development is the process of discovering one's interest and aptitudes – or one's passion – and then generating and seizing opportunities to bring that passion to life. This process evolves throughout childhood, youth, and adulthood in distinct ways and stages, beginning with open-ended exploration in the earliest years and progressing to goal setting and reevaluation in adulthood."
(*California State Plan for Career Technical Education*, page 72)

Guiding students to a successful career begins in elementary school with awareness and exploration and then in high school with the development of a Program of Study, defined as a planned sequence of articulated courses in a recognized CTE industry sector, which includes both secondary and post- secondary elements and is aligned with the *California Career Technical Education Model Curriculum Standards*, CTE Framework and core Academic Content Standards. This Program of Study must include coherent and rigorous content aligned with challenging academic standards and relevant CTE Standards in a coordinated, non-duplicated progression. It needs to align secondary education with post-secondary education leading to an industry recognized credential, certificate, or degree at the post- secondary level. The development of the Program of Study is the responsibility of the CTE staff, ensuring availability to all students. It is the counselor's duty to provide students with the information necessary to successfully participate in a Program of Study. Successful completion of a Program of Study leads to an industry recognized credential or certificate at the post-secondary level or an associate or baccalaureate degree or apprenticeship program.
(*California State Plan for Career Technical Education*, page 227)

In most high school settings, career guidance is an important task of the school counselor. It is the counselor who helps each student plan his/her high school class schedule and determine his/her post high school choices. It is the counselor who assesses the student's interests, strengths and weaknesses, and helps the student identify a suitable career area of study. To assist the counselor, many high schools have career centers with career-related materials and a range of services from career assessments to job search and preparation activities.

Guiding students toward career choices means helping students: (1) acquire the skills needed to explore, create, and discover life and career options; (2) use strategies to achieve future career goals that promote individual success and personal satisfaction; and (3) master skills that assist in maintaining and/or advancing careers. It is a process of planning courses and activities that allow students to: (1) acquire the skills needed to investigate the world of work in relation to knowledge of self and to make informed career decisions; (2) employ strategies to achieve future career goals with success and satisfaction; and (3) understand the relationship between personal qualities, education, training, and the world of work.

Effective counselor-led career guidance programs guide students toward the awareness of various careers; incorporate activities that help students learn about their own interests and aptitudes; and provide information and resources that help students choose, train for, and manage their careers. They also understand the variety of options available for guiding students to a career including:

- Career Technical Education Courses – CTE courses are an integral part of the high school courses providing students with opportunities to learn about various careers; create a personal career portfolio consisting of a cover letter, resume, and sample job application; job shadowing and internships in a career of interest; and involvement in supervised, work-based, experiences in a career of their choice.
- One Stop Career Centers – Students in California have access to a wide network of One Stop Career Centers where the Employment Development Department, the Department of Vocational Rehabilitation, Regional Occupation Centers and Programs (ROCPs), adult school programs, community colleges, and numerous community-based agencies are co-located to provide state-of-the-art universal access to career services, with intensive services for those meeting economic thresholds and other criteria.
- California Career Resource Network (CalCRN) – provides students throughout the state with a range of online and hard copy resources and materials. The CalCRN web site offers various materials, job search preparation guides and assessment tools as well as links to job listing resources, job search preparation guides, and career development information specific to California. (www.californiacareers.info)
- California Career Development Information – CalCRN developed The Real Game California which incorporates California economic and workforce data and gives students information to become self-sufficient, career self-managers for life. This career management curriculum is aligned to the California Academic and CTE Model Curriculum Standards. (www.careerzone.org)
- California Resource Clearinghouse – The clearinghouse offers a free online library where educators can search for and borrow books, periodicals, pamphlets, worksheets, and various media pertaining to career development in the classroom and career centers. (www.ca-clearinghouse.net)

- School and Beyond – This web site links career exploration and development curricula for students of all ages. (www.schoolandbeyond.org)
- EDD Labor Market Information Division – The Employment Development Department's Labor Market Information Division provides in-depth information about careers, job availability and earnings, categorized specifically for educators and job seekers. (www.labormarketinfo.edd.ca.gov)

A major problem of using counselors to provide career guidance for students is that many counselors are not trained as career counselors, and in California, the average school counselor to student ratio is 478:1. If the school is to be effective in career guidance; teachers, administrators, and counselors need:

- An understanding of what CTE is and why it is a viable choice for all students.
- An understanding of course sequencing, knowing that advanced or capstone CTE courses have important foundations in introductory and concentration courses.
- An understanding about CTE industry sectors and pathways, using industry sectors to help students plan their education with a career technical goal in mind.
- To learn more about CTE by: (1) attending CTE Employer Advisory Board meetings; (2) learning success stories about students in CTE programs and graduates of CTE programs; (3) attending CTE workshops and/or CTE professional development programs; (4) ensuring that a CTE representative is on all major school committees to advocate for CTE; and (5) utilize standards from the American School Counselors Association (ASCA).

Schools need to ensure that students leave high school with the needed skills to be successful in the "world-of-work," including:

- Establishing a common understanding of essential skills that all individuals need to navigate through life and a possibility of multiple career changes.
- Developing a comprehensive career guidance system that provides assessment, guidance, and goal setting opportunities.
- Offering an array of career exposure and exploration activities at every grade level.
- Promoting strategies that engage peers, mentors, and parents in exploration and career development activities.
- Providing students with up-to-date employment-related information.
- Providing professional development for counselors, instructors, and administrators in the theory and practice of career development.
- Ensuring that counselors provide career guidance and exploration information to students.
- Disseminating career exploration and rigorous integrated CTE/academic curricula through online tools and professional development.
- Promoting career exploration and development of essential workplace skills in after-school and out-of-school programs.
- Promoting work-based learning and work experience education as a strategy for both career exploration and the development of essential workplace skills.

(*California State Plan for Career Technical Education*, pages 78 and 79)

Career exploration and guidance for students is the responsibility of the entire educational community. In kindergarten, students role-play being a fireman, policeman, nurse, etc. They learn about different careers as part of the history/social science curriculum. Providing career guidance throughout a student's school experience is the school's responsibility. CTE course sequencing beginning in the middle grades; career knowledgeable counselors (American School Counselors Association (ASCA) Standards) teachers, and administrators; and effective standards-aligned CTE courses are methods that will enhance the opportunity for students to be successful in the world of work.

Role of Instructional Leader

Career Exploration and Guidance

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:

No.	Steps To Follow	Completed
Related to the Curriculum		
3.1	Ensure all counselors understand what CTE is and why it is a viable option for all students.	
3.2	Ensure that counselors understand CTE course sequencing, knowing that introductory and concentration courses provide the foundation for advanced or capstone courses.	
3.3	Ensure the school implements Programs of Study that incorporate secondary and post-secondary elements, rigorous content aligned curriculum, and aligned courses that leads to an industry recognized credential, certificate, or degree at the post-secondary level.	
3.4	Ensure that teachers, counselors, and administrators have an understanding of CTE industry sectors and pathways.	
3.5	Ensure that a CTE representative is on all major school committees to advocate for CTE.	

Quality Program Checklist (Appendix A, page 135)

No.	Quality Program Indicators	Completed
3A	Students are counseled regarding: • CTE career opportunities. • CTE and academic courses necessary to complete career pathway offerings. • Post-secondary education and training options	
3B	All students have completed a four year career plan that is updated annually.	

- Complete the High-Quality Element Three (Career Exploration and Guidance) 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.

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)

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Four is found in:
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)
Chapter 5: Applications of CTE Foundation Standards (CTE Framework, pages 115-136)

Implications for Your CTE Plan

Students entering CTE courses come with unique needs. For students to succeed in an age of increasing classroom rigor, competition for employment and a growing international market place, proactive student support services are of paramount importance. In particular, attention must be invested in addressing the increasing diverse needs of students, families, and communities. Data on the achievement of special populations needs to be disaggregated by subpopulation, to enable administrators to identify areas of needed support for each group.
(*California State Plan for Career Technical Education*, page 80)

"Consideration and accommodation of the needs of every student are termed universal access, which means more than providing access to a course. Equality of opportunity extends to providing physical and instructional adaptations to meet students' individual learning needs whether primarily for support to complete basic classes or for additional challenges in the traditional system. An effective universal access approach to CTE requires planning, attention, and application of resources. Because differences among students are not always immediately obvious or easily addressed, CTE teachers must identify and meet multiple and sometimes conflicting needs within a single class."
(*Career Technical Education Framework for California Public Schools*, page 71)

CTE courses, in nature, tend to be "hands-on" learning experiences, keyed to real-world applications, focused on career development, and designed to apply academic concepts taught in core curriculum. It is therefore the responsibility of the CTE instructor to understand the unique needs of students' and develop/implement differentiated instructional methods that address each student's needs.

Student Support

Studies have shown that special population students experience multiple challenges at different phases during their enrollment and progress in CTE programs. Among the difficulties cited are few role models; competing demands of work and family obligations; inadequate child care; logistical issues such as difficulty with transportation; academic challenges; and limited English proficiency. Systemic barriers include limited sharing of information about available support services, lack of training and professional development for CTE program staff on effective strategies for serving special population students, insufficient numbers of classroom aides, lack of materials in languages other than English, and inadequate time to cover course content.
(*California State Plan for Career Technical Education*, page 81)

Student support for special populations includes: (1) outreach programs; (2) referrals and links to services both on and off campus; (3) instructional support (e.g., tutoring, vocational English as a second language program); (4) support for child care, transportation, and other needs; (5) recruitment of students into career technical student organizations; (6) coaching, career development, mentoring, and leadership development; (7) assistance with transitions to employment; (8) personalized learning environments; (9) flexible and individualized technology-based instruction; and (9) professional development to assist faculty and staff in working effectively with special populations.
(*California State Plan for Career Technical Education*, page 80)

In each classroom, CTE teachers individualize and adapt instruction to meet specific student needs. This may require implementing special instruction for slower learners, modifying assignments for English language learners, providing opportunities of acceleration and enrichment for advanced learners, etc. All students need to have the opportunity to excel in CTE courses and it is the responsibility of the CTE teacher to provide the setting for this success. It is the purpose of the program to ensure that all CTE programs and curricula are designed to meet the needs of both the special population students and the general student population. (See *Perkins and Consolidated Programs for Special Populations*, Appendix A, page 175)

Leadership Development

"Leadership is a dynamic, relational process. It is a quality and skill that can and should be taught in CTE classrooms. Although there may be some born leaders, there are many more youths who can learn leadership skills through study, diligent practice, feedback, and more practice. These skills can be taught and assessed by being incorporated into the performance-task assignments and rubric assessments as demonstrated in Part II (of the framework). Students in CTE courses have exceptional opportunities to expand their understanding of leadership and develop leadership skills because much of the classroom and laboratory study occurs in working groups."
(*Career Technical Education Framework for California Public Schools*, page 132)

One of the best vehicles for offering support for student leadership development is involvement in the following national Career Technical Student Organizations (CTSO):

1. Health Organizations Students of America	Cal-HOSA
2. Home Economics Careers and Technology	California Association FHA-HERO
3. An Association of Marketing Students	DECA
4. Future Business leaders of America	FBLA
5. Future Farmers of America	FHA
6. Skills USA California	Skills USA

(*See Career Technical Student Organizations,* Appendix A, page 176)

These national organizations provide CTE programs with carefully structured leadership development opportunities, career skills, participation in competitive career-related events, and community service. They also offer networking with peers, alumni, and adults who can serve as mentors, counselors, and conduits to prospective employers.

CTE programs have the opportunity and structure to provide leadership experiences for all students through CTE national student organizations and through locally designed projects. In the CTE course, students need to learn the definition of leadership, gain an understanding of the importance of leadership, learn how leadership skills can benefit the individual or group in various settings, and practice leadership with constructive feedback for improvement. Leadership instruction is most often embedded in CTSO activities. An alternative leadership instruction strategy is to embed the skills into the regular CTE course content, as defined in Foundation Standard 9.0. Leadership instruction must be an integral part of the course curriculum.

Role of Instructional Leader

Student Support and Student Leadership

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:

Student Support

No.	Steps to Follow	Completed
4.1	Ensure that CTE instructors modify their curriculum and instructional practices to meet the instructional needs of all students.	
4.2	Ensure that course activities allow universal access for all students, providing physical and instructional adaptations to special needs students.	
4.3	Ensure that CTE programs provide needed support to special student populations including outreach programs, links to services, instructional support, etc. (*Perkins and Consolidated Program for Special Populations*, Appendix A, page 175)	

Student Leadership

No.	Steps to Follow	Completed
4.4	Ensure the CTE curriculum includes structured activities to build the student's leadership skills.	
4.5	Ensure that CTE instructors encourage students to join course-related national Career Technical Student Organizations (CTSO). (See Career Technical Student Organizations, Appendix A, page 176)	
4.6	Ensure CTE instructors understand that local CTSO chapters must be properly affiliated (chartered) with appropriate state associations.	
4.7	Ensure that the local CTSO chapter provides opportunity for all students enrolled in the pathway to be affiliated with the appropriate state association.	
4.8	Ensure that the local CTSO chapter elects student officers and conducts monthly meetings for all students enrolled in the career pathway.	
4.9	Ensure that local CTSO chapters have students registered and in attendance at the Annual State Leadership Conference.	

Quality Program Checklist (Appendix A, page 136)

No.	Quality Program Indicators	Completed
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 15th.	
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 generic 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.	

Suggested Support Documents for High-Quality Element Four

Student Leadership

- Complete the High-Quality Element Four (Student Support and Student Leadership Development) 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.

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)

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Five is found in:
Chapter 4: Community Involvement and Collaboration (CTE Framework, pages 98-114)

Implications for Your CTE Plan

California is facing unprecedented challenges to meet its future workforce needs. The importance of business and industry representatives working closely with education and CTE program staff has never been greater.

"Business and industry, including labor and trade organizations and apprenticeship programs, work with the education community through advisory boards, forums, and other educational and training partnerships to inform CTE program design, instruction, and assessment. These partnerships ensure CTE's relevance to the workplace and facilitate the placement of students and teachers in work experience, work-based learning, job shadowing and internships; skills identification and certification; consultation on career pathways and program design; career exploration in all grades and levels; information sharing on labor market demands and economic trends; and teacher recruitment and professional development.

The most common CTE advisory boards are those required by law as follows:

1. Regional career guidance centers (*California Education Code* Section 52344). A local advisory board is composed of 11 members, at least seven of whom are from business, industry, labor, and the general public.

2. ROCPs (*California Education Code* Section 52302.2) Subject area advisory boards determine courses appropriate for regional occupational centers and provide advice.

3. Unified school districts and union high school districts with a CTE program (*California Education Code* Section 8070). A career technical education advisory board develops recommendations on the program and provides a liaison between the district and potential employers.

4. Unified school districts and union high school districts with a partnership academy (*California Education Code* Section 54692[a]). An advisory board consists of those involved in academy operations, including school district and school administrators, lead teachers, and private-sector representatives.

5. Unified school districts and union high school districts, ROCP's, and county offices of education receiving Carl D. Perkins funding (Public Law 109-279, Section 134[b][5]). Advisory groups involve parents, students, teachers, representatives of business and industry and labor, representatives of special populations, and others involved in Perkins-funded CTE programs."
(*Career Technical Education Framework for California Public Schools*, pages 103-104)

Recruiting advisory board members from local business and industry, chambers of commerce, workforce and economic development associations, and business roundtables will provide a diverse and comprehensive set of experiences, skill sets, and perspectives to add value and support for the CTE program area.

Most local CTE programs, whether operated by a school district, ROCP, Adult Education or community college utilize program advisory boards for program planning, curriculum development, and assessment of labor market demand and needs. The ideal advisory board will represent a CTE program of study being offered in the local area by all deliverers of that particular CTE program. For example, if three construction trade programs are offered locally by a school district, ROCP, and community college, a single advisory board will establish the foundation for coordination of programs, articulation of curriculum, and a unified approach in working with local business and industry.

Summary
Program advisory boards are crucial to the success of CTE programs. Ensuring CTE programs are relevant to the future workforce needs in California will, in part, be dependent on close working relationships between employees, workforce and economic development organizations, chambers of commerce, and business roundtables. The economic health and visibility of California's future economy is at stake.

Role of Instructional Leader

Industry Partnerships

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:

No.	Steps to Follow	Completed
5.1	Ensure all CTE programs conduct Employer Advisory Board Meetings on a regular basis.	
5.2	Ensure that all Employer Advisory Board Meetings follow an agenda that allows business/industry representatives to gain an understanding of the course and provide input. (See *Employer Advisory Board Guidelines*, Appendix A, page 143)	
5.3	Ensure that CTE teachers strive to build positive relationships with business and industry representatives.	

Quality Program Checklist (Appendix A, page 136)

No.	Quality Program Indicators	Completed
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.	

Suggested Support Documents for High-Quality Element Five

- Complete the High-Quality Element Five (Industry Partnerships) 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.

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)

Essential Program Component Three: Lesson Plan Guide

Leadership ensures that course sequences consist of a logical alignment of courses within a Career Pathway and include the articulation of courses from middle school to postsecondary education. Leadership creates/monitors the school's master schedule to ensure students have equal access to CTE courses that have been identified in their career pathway. Teachers develop instructional pacing guides to ensure that students have opportunities to learn the standards-aligned course content.

Career Technical Education Framework for California Public Schools

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

Chapter 1: Scheduling a Standards-based Curriculum (CTE Framework, pages 13-38)
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)
Chapter 4: Community Involvement and Collaboration (CTE Framework, pages 98-114)
Part II: Industry Sectors (CTE Framework, pages 137-445)

Implications for Your CTE Plan

Perhaps more than any other aspect of developing a CTE Course of Study, the sequencing and scheduling of a desired pathway requires the collaboration of a wide and diverse group of participants. For this reason alone, leadership is of paramount importance, for it is the instructional leader's role to bring these disparate entities together, to gain their cooperation and mutual trust, and to facilitate the sharing of ideas and expertise necessary for quality work to be accomplished.

In the process of scheduling students, it has always been necessary to configure the "big board" according to graduation requirements, staffing needs and availability, categorical programs, and "singletons." Effective scheduling of CTE course sequences and the state requirements for students working below grade level are now added and crucial considerations. Student schedules must allow for participation in each course in the sequence (often multiple courses in a pathway are taught by the same instructor) and for intervention in English/language arts and mathematic courses. "CTE remains feasible in the context of four-year student programs, even for academically

challenged students in SAIT schools." (*Career Technical Education Framework for California Public Schools,* page 91)

From the CTE faculty who develop the curriculum and courses, to the core academic teachers who partner with them in the development of curriculum and courses, to counselors who schedule classes to avoid conflicts, to community college faculty who help plan for articulated instruction, to business partners who help certify that instruction aligns with state-of-the art industrial practices, it is the instructional leader who must bring each group to the table and infuse them with a sense of the value of this endeavor.

Course Articulation

Course articulation refers to aligning courses within the school, program, district, and between the high school and postsecondary institutions. As noted in the CTE Framework, a variety of different articulation models are possible:

1. Elementary to Middle School: Students have their first opportunity to explore careers in the elementary school through classroom speakers, field trips, and organized activities. In the middle school, students engage in career interest and aptitude tests, write "O Search" papers about a career, and participate in job shadowing. Students explore careers through sampler modules and beginning career exploration courses. Articulating the elementary and middle school programs can provide students with an organized method for exploring various career options and avoid duplication of efforts. Career modules, if articulated, can build on each other from grade-to-grade.

2. Middle to High School Articulation: Articulation from middle to high school can allow for career interest decisions to be made prior to high school and thus facilitate informed career preparation choices at the high school level allowing students to then concentrate on one or more pathways. This articulation offers some advantages: (1) high schools have a built-in feeder system that includes CTE courses, making recruitment and enrollment an assumed and prepared for part of the transition process; (2) middle school introductory courses could decrease the number of introductory courses needed at the high school; and (3) students at the middle school may try different pathways and choose the one they like best, following that pathway at the high school level.

3. High School to Postsecondary Education Articulation: The most common alignment for high school to postsecondary articulation has been through the Tech Prep 2+2 program. Tech Prep programs, with integrated and articulated curricular pathways, result in well prepared high school students earning advanced technical degrees and certification at the community college. Through this articulation, high school capstone courses are aligned to community college CTE career courses. Articulation can occur in a variety of forms: through course alignment; through dual credit courses; through CTE courses taken at the community college campus; and through specific academic prerequisite high school and college academic courses required for a specific career-focused degree or certificate.

4. Industry Certification Alignment: CTE courses need to be aligned with industry certification or industry requirements preparing students for entry into a career.

(*Career Technical Education Framework for California Public Schools*, pages 111-113)

CTE Course Sequencing

Sequence of courses incorporates both secondary and postsecondary elements. It includes coherent and rigorous content aligned with challenging academic standards and relevant CTE in a coordinated, non-duplicated progression of courses that align secondary education with postsecondary education. This adequately prepares students to succeed in postsecondary education and leads to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree. (*California State Plan for Career Technical Education*, page 227)

Sequences of courses for CTE programs must:

- Consist of not less than two full-year CTE courses with a combined duration of not less than 300 hours; or a single, multiple-hour course which provides sequential units of instruction and has a duration of not less than 300 hours.
- Be coherent, meaning that the sequence may only include those CTE courses with objectives and content that have a clear and direct relationship to the occupation(s) or career targeted by the program.
- Include sufficient introductory and concentration CTE courses to provide students with the instruction necessary to develop the skill and knowledge levels required for employment and postsecondary education or training.

(*California State Plan for Career Technical Education*, page 224)

Most schools sequence CTE courses using the introductory–concentration–capstone structure, a process that helps to provide high school graduates with career entry-level skills or entry into advanced career training in a postsecondary course. Postsecondary can be defined as any institution which provides advanced CTE training beyond the secondary level (e.g., community college, apprenticeship, union shops, four-year colleges, private postsecondary training programs). While this structure is similar in schools throughout the state, course content varies by local needs, circumstances, size of program, number of industry sector teachers at the school, and availability of support resources. Ideally, a CTE sequence of courses is no less than three year-long courses leading to industry certification or postsecondary enrollment.

AB 2448 requires that ROCP programs develop articulation (course sequencing) agreements with community colleges. In this law, the term articulation is interpreted to mean course sequence. The law states that "On or before July 1, 2010, the governing board of each ROCP shall ensure that at least **90 percent of all state funded courses** offered by the ROCP, in occupational areas in which both the ROCP and the community college offer instruction, are part of occupational course sequence that targets comprehensive skills. Each occupational sequence shall do all of the following:

E.C. 52302 (a)(1):	Result in an occupational skill certificate developed in cooperation with the appropriate Employer Advisory Board created under 52303.2.
E.C. 52302 (a)(2):	Provide prerequisite courses that are needed to enter apprenticeship, or to obtain a postsecondary vocational certificate or degree program. Where possible, sequenced courses shall be linked to certificate and degree programs in the region.
E.C. 52302 (a)(3):	Focus on occupations requiring comprehensive skills leading to high entry-level wages or the possibility of significant wage increases after a few years on the job, or both.
E.C. 52302 (a)(4):	Offer as many courses as possible that have been approved by the University of California as courses meeting the "a-g" admissions requirements."

AB 2448 also addresses conditions for receiving federal funds under the Carl D. Perkins Vocational and Applied Technology Act of 1998 stating, "On or before July 1, 2010, school districts, ROCPs, and community college districts shall have established course sequences as required under this section that include at least **two-thirds** of the courses offered by the ROCP in occupational areas in which both the ROCP and the community college offer instruction." (E.C. 52302 (c)(1)(C))

Although AB 2448 is directed at the ROCP programs, instructional leaders responsible for other types of CTE courses should be aware of the law and incorporate the course sequencing concepts into their program.

State Funded Sequence of Courses
According to Education Code 78018, "an occupational course sequence is defined as two or more (at least 150 hours of instruction per year each) CTE courses in the same pathway offered by both the high school and the community college in the local service area. At a minimum, the high school must have at least one CTE course and the community college must have at least one CTE course to satisfy the two or more course sequence requirement. The sequence may also include academic courses that are directly relevant to the student being successful in the CTE course. However, if the sequence includes academic course(s), the sequence must still have two, or more, CTE courses as stated above." (See *State-Funded Course Sequencing Plan for ROCPs per AB 2448*, Appendix A, page 179)

Carl Perkins Funded Sequence of Courses.
An occupational sequence is defined as two or more CTE courses (at least 150 hours of instruction for each course per year or one course of 300 hours) in the same pathway leading to a certificate, degree, license, or credential. A 360 hour CTE course meets this definition. The sequence may be supplemented with academic courses that are directly relevant to the student being successful in the CTE course. If the sequence includes academic courses, the sequence must also include the two CTE courses of at least 150 hours or one course of 300 hours.

Chapter Five of the 2008-2012 *California State Plan for Career Technical Education* also addresses the guidelines for course sequencing stating: "Each LEA receiving Section 131 and 132 funds must provide at least one program of study, as defined in Sections 122 (c)(1)(A) or Perkins IV. "Programs of Study" must incorporate secondary and postsecondary elements, lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree. "Programs of Study" must also satisfy the organization and operation requirements specified in policy #3." The Proposed State Policy for sequences of CTE courses, assisted with Perkins IV funds, states that courses:

- Must consist of not less than two full-year CTE courses with a combined duration of not less than 300 hours; or a single, multiple hour course which provides sequential units of instruction that has a duration of not less than 300 hours.
- Must be coherent, meaning that the sequence may only include those CTE courses with objectives and content that have a clear and direct relationship to the occupation(s) or career targeted by the program.
- Must include sufficient introductory and concentration CTE courses to provide students with the instruction necessary to develop the skill and knowledge levels required for immediate employment and further education or training.

(See *Identification of the Career Technical Education (CTE) Sequence of Courses to be Assisted with Perkins IV Funds*, Appendix A, page 180)
(*California State Plan for Career Technical Education*, page 225)

Developing Course Sequences

A solid, traditional program sequence in CTE may be defined as an introductory course (which may be offered at the middle school level) followed by two or more concentration and/or capstone courses. This sequence of courses allows students to move through introductory, concentration, capstone, and related courses in an organized manner which:

1. Facilitates student mastery of both CTE and academic standards within a pathway.
2. Allows students to select related courses from another program in the industry sector.
3. Enables students to complete concentration courses which have been articulated with the community college (e.g., Tech Prep 2+2).
4. Provides opportunities in many industries to earn certificates of mastery, college credits, and/or industry certification.
5. Avoids using concentration course time to teach knowledge and skills appropriate to introductory courses."

(*Career Technical Education Framework for California Public Schools*, pages 20-22)

To develop a course sequence, the process begins by:

1. Developing an articulation team that includes key individuals from participating institutions.
2. Reviewing the course to identify the Pathway and Foundation Standards to be addressed in each.
3. Identifying each course as introductory, concentration, or capstone.
3. Determining if the aligned course will provide advanced placement, dual credit, or regular course credit. Advanced placement credit allows the student who completes the course at one level to waive the course at the next level.
4. Developing a formal agreement for all aligned courses that includes the criteria for articulation credit (advanced placement or dual credit for high school classes).
5. Reviewing articulation agreements on a regular basis.
6. Reviewing the following documents:
    - *Career Pathway Programs of Study Development Process*, Appendix A, page 181
    - *Education Component for Career Pathway Program of Study Development Process*, Appendix A, page 182

    (*Career Technical Education Framework for California Public Schools*, pages 110-111)

When writing course sequences, it is imperative that the instructional leader ensures: (1) there is at least one introductory and one concentration course in each sequence; (2) the courses collectively form a sequence reflecting academic rigor, skill attainment, and behaviors for success; and (3) the courses accurately reflect the needs of the community, local businesses, industry, and the students.

The State Department of Education has developed a course sequencing template under the CTE Program of Study initiative that provides school counselors with a tool to help the student plan his/her career from grade seven through college. (See *Program of Study Course Sequencing Form*, Appendix A, page 183). The Program of Study Worksheet can be very useful when developing course sequences for students (See *Program of Study Worksheet*, Appendix A, page 184).

The SB 70 Course Alignment Toolkit, developed by the California Department of Education, provides everything needed to help students map out a path to a successful career. The kit contains a Class Planning Form (see *SB 70 Course Sequencing Form*, Appendix A, page 185) for a student to select a career pathway of interest and to select the right classes to stay on the path. In addition,

the Counselor Planning Cards list sample CTE courses for each pathway under the topics of Introductory, Concentration, and Capstone courses. These documents also list sample pathway occupations and required level of education (see *Sample Course Sequences and Related Occupations*, Appendix A, page 186). The entire SB 70 course alignment took kit is available at **whodouwant2b.com**. (Look under **resources** then **Class Planning Sheets**).

Developing Comprehensive Pathways and Academies

An increasingly popular model for delivery of career technical education combines academic courses, career technical courses, and work-based learning to form academies, career majors, and small industry-themed schools. The programs intentionally prepare students simultaneously for college and career opportunities. When done well, integrated projects that span most/all academic and technical subject areas simultaneously address the Content, Foundation, and Pathway Standards, all of which are reinforced through high quality, sequenced and coordinated work-based learning opportunities. The California Partnership Academies represent a popular model, but many others exist. Below are listed some organizations that provide resources and technical assistance for those wishing to develop comprehensive pathways and academies:

- Career Academy Support Network (CASN), UC Berkeley (http://casn.berkeley.edu)
- ConnectEd: The California Center for College and Career (www.ConnectEdCalifornia.org)
- Department of Education (www.cde.ca.gov/ci/gs/hs/cpagen.asp)

Corrective Action Plan (CAP) for Course Sequences

According to AB 2448 (EC 52302(c)(3) "School districts, ROCPs and community colleges that do not develop sequences of courses on or before the date established under this subdivision, and have not received a waiver under subdivision (d), shall enter into a corrective action plan with the department, and shall meet any timelines established by the CDE." (See Corrective Action Plan Timeline, Appendix A, page 201)

Superintendent Waiver for Rural Areas:

"The Superintendent may waive the state funded course sequencing requirements between the ROCP and the community colleges located in rural areas of the state if the Superintendent finds the development of sequences is infeasible because of the distance, travel time, or safety between the ROCP and the community college. (E.C. 52302 (d)(3) Rural areas are those counties identified as follows:

County Class 6 (7,000-14,999 ADA)	Lake, Mendocino, Nevada, San Benito, Tehama, Tuolumne, and Yuba
County Class 7 (1,000-6,999 ADA)	Amador, Calaveras, Colusa, Del Norte, Inyo, Lassen, Mariposa, Modoc, Mono, Plumas, Siskiyou, and Trinity
County Class 8 (under 1,000 ADA)	Alpine and Sierra

(For information on the CAP, see *Corrective Action Plan Timeline* Appendix A, page 201)

Scheduling

Developing a class schedule becomes more challenging as counselors consider the needs of every student and work within the requirements generated by the school's accountability scores from California's Academic Performance Index (API) and Federal Academic Yearly Progress (AYP). (To learn more information about API and AYP benchmarks, read High-Quality Element Ten and review the related documents in Appendix A) With rising requirements and sanctions for Program Improvement (PI) schools, scheduling underperforming students into CTE courses becomes a

challenge. "For example, if II/USP (Intervention/Underperforming Schools Program) schools that do not make the required gains, a School Assistance and Intervention Team (SAIT) helps the schools plan for and implement the required state program for intervention which will include:

- Three periods of reading per day for students reading two or more years below grade level.
- Two periods of English/language arts for students reading between grade level and 1.9 years below grade level.
- Algebra I and one Algebra support class for students underperforming in mathematics by two or more years."

(*Career Technical Education Framework for California Public Schools,* page 91)

For the "on grade-level" student, counselors must take special care when developing the student's class schedule, giving consideration to high school graduation requirements and CTE course sequences. The sample course schedule below is for an "on grade-level" student who is not required to take reading and mathematics intervention and wants to complete a full CTE course sequence in the Machine and Forming Technology pathway of Manufacturing and Product Development industry sector. The following class schedule meets the a–g requirements for UC/CSU:

a-g Subject Areas	UC Requirements (in Units)	Grade 9	Grade 10	Grade 11	Grade 12
(a) History-Social Science	2		World History	U.S. History	Government (One Semester)
(b) English	4	English 9	English 10	English 11	English 12
(c) Mathematics	3	Algebra I	Geometry	Algebra II	(See below)
(d) Laboratory Science	2		Biology	Chemistry	Physics
(e) Language other than English	2	Spanish I	Spanish II		
(f) Visual and Performing Arts	1	Graphic Design			
(g) College Preparatory Elective	1				Statistics (c/g) Economics (One Semester)
CTE Pathway courses		Technology Core	Machine Shop	Metal Fabrication	Advanced Machine and Tool Technology
Other Requirements		Physical Education		Physical Education and Health	CADD

(*Career Technical Education Framework for California Public Schools*, page 93)

The following schedule meets the a–g requirements for UC/CSU for students who are two years

behind in both reading and mathematics and exits reading in grade nine, completes the a–g requirements, and completes a sequence of CTE courses in the Child Development pathway of the Education, Child Development, and Family Services sector:

a-g Subject Areas	UC Requirements (in Units)	Grade 9	Grade 10	Grade 11	Grade 12
(a) History-Social Science	2		World History	U.S. History	Government (One Semester)
(b) English	4		English 9 English 10	English 11	English 12
(c) Mathematics	3	Algebra I	Geometry	Algebra II	
(d) Laboratory Science	2		Biology		Chemistry
(e) Language other than English	2			Spanish I	Spanish II
(f) Visual and Performing Arts	1			Graphic Arts	
(g) College Preparatory Elective	1				Economics (One Semester) Developmental Psychology of Children
CTE Pathway courses				Child Development and Parenting	Advanced Child Development
Other Requirements		Reading Reading Reading Algebra I Support Physical Education	Physical Education and Health		

(*Career Technical Education Framework for California Public Schools*, page 92)

To help students and counselors develop class schedules, CTE instructors or counselors need to assist students as they develop their ROP/CTE career plan. In this plan, students identify a desired Career Pathway then, with assistance from counselors, develop a sequence of CTE courses for the chosen pathway. The career plan, reviewed annually, provides additional guidance as counselors develop each student's class schedule. (See *ROP/CTE Career Plan Form*, Appendix A, page 202)

Pacing Guides
Pacing guides provide instructors with a timetable for delivering the course content. One type of pacing guide is a time log, located in the course outline, showing the amount of class and lab time spent on each unit. (See course outline, page 105 and 110). To provide clarity, CTE teachers need to define what constitutes class hours and lab hours.

A second pacing guide may be incorporated in the course unit outline showing the standards and benchmarks taught in each unit. (See course outline, page 105 and 110).

A third type of pacing guide shows the amount of instructional time for each Foundation and Pathway Standards as well as the benchmarks for student achievement. (See *Sample Pacing Guide for CTE Courses* in Appendix A, page 174)

The instructional leader should review CTE pacing guides on a regular basis with each teacher, asking the question: "Are current courses following a pacing guide that ensures adequate time for mastery of each Foundation and Pathway Standard?"

Summary
Sequencing CTE courses and articulating to postsecondary institutions provides the student with a career pathway that is more than just a single CTE course. It is a complete career preparation sequence from middle school to postsecondary education. With course sequencing, counselors and students alike have the opportunity to develop a high school schedule that takes into account the student's desired CTE course sequence as well as standard graduation requirements.

Pacing guides provide teachers with a time schedule for teaching each course unit and reinforcing the Standards identified in his/her aligned curriculum. Teachers also use a variety of instructional strategies to meet the diverse needs of all students, from EL to the gifted and talented.

Role of Instructional Leader

System Alignment and Coherence

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:

Course Sequencing

No.	Steps to Follow	Completed
6.1	Ensure CTE teachers understand legislation for developing state-funded course sequences.	
6.2	Ensure that CTE teachers use the school/district format for certifying course sequences.	
6.3	Ensure that CTE teachers understand legislation for developing Carl Perkins funded course sequences. (See *State-Funded Course Sequencing Plan for ROCPs per AB 2448*, Appendix A, page 179)	

6.4	Ensure that teachers review the various forms for writing course sequences including: • *Identification of the Career Technical Education (CTE) Sequence of Courses to be Assisted with Perkins IV Funds*, Appendix A, page 180 • *Career Pathway Programs of Study Development Process,* Appendix A, page 181 • *Education Component for Career Pathway Program of Study Development Process*, Appendix A, page 182 • *Program of Study Course Sequencing Form*, Appendix A, page 183 • *Program of Study Worksheet,* Appendix A, page 184 • *SB 70 Course Sequencing Form*, Appendix A, page 185	
6.5	Ensure teachers understand and review the sample course sequencing documents available for their particular pathway. (See *Sample Course Sequences and Related Occupations* Appendix A, page 186)	
6.6	Develop a process for writing course sequence plans that include the steps defined in the CTE Framework, pages 110-111.	
6.7	Ensure that CTE teachers write course sequences by identifying courses as Introductory, Concentration, or Capstone, including a minimum of two CTE courses in each sequence.	
6.8	Ensure that the school/district publish course sequences.	
6.9	If the school/district is not following the AB 2448 timeline for developing course sequences, ensure that CTE teachers review the Corrective Action Plan (CAP) timeline. (See *Corrective Action Plan Timeline*, Appendix A, page 201)	

Scheduling

No.	Steps to Follow	Completed
6.10	Ensure that counselors understand the importance of CTE course sequences and incorporate these into the student's class schedule.	
6.11	Ensure that CTE instructors, or counselors, annually assist the student in completing a career plan. (See *ROP/CTE Career Plan Form*, Appendix A, page 202)	
6.12	Ensure that CTE courses are entered into the master schedule to maximize enrollment in, and completers of, course sequences.	
6.13	Ensure that counselors receive training on methods for scheduling CTE course sequences for the low-performing students, taking into account the mandates of API and AYP.	

Pacing Guides and Student Groupings

No.	Steps to Follow	Completed
6.14	Review all CTE course outlines to ensure that the pacing guides are included. (See *Sample Pacing Guide for CTE Courses*, Appendix A, page 174)	
6.15	Ensure that CTE instructors incorporate/implement pacing guides into their curriculum.	

Quality Program Checklist (Appendix A, page 136)

No.	Quality Program Indicators	Completed
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.	

Suggested Support Documents for High-Quality Element Six

- Complete the High-Quality Element Six (System Alignment and Coherence) section of your **Systemwide CTE Plan using** the **template** beginning on **page 79**.

- Upon completion of the Systemwide CTE Plan, the next step is to **support the implementation**, then continuously monitor, adjust, and refine the information found in this High-Quality Element.

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)

Essential Program Component Eight:
Monthly Collaboration by Grade Level or Program for Teachers Facilitated by the Principal

Leadership supports and enhances regularly scheduled teacher collaboration, providing the opportunity to review assessment data, integrate standards into courses and programs, implement improved instructional techniques, develop interdisciplinary projects and lessons, and discuss methods to prepare students for postsecondary education and careers.

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Seven is found in:
Chapter 4: Community Involvement and Collaboration (CTE Framework, pages 98-114)

Implications for Your CTE Plan

Schools that nurture teacher collaboration are sites with supportive school climates. “A collection of superstar teachers working in isolation cannot produce the same results as interdependent colleagues who share and develop professional practices together.” (Robert Garmston and Bruce Wellman ENC Focus 11 (7) 7-9) Faculties that take sufficient time 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 stay on the “cutting edge” of instructional delivery.

Teaching requires time with colleagues to share and reflect on best practices, to collect and discuss pertinent research, and to remain current with the latest industry standards. In our highly technical world, this is arguably crucial to the success of CTE programs. School leadership, therefore, must commit to collaboration, provide time for planning collaboration sessions, provide the necessary collaboration meeting time, and implement/monitor the collaboration experiences.

Collaboration
CTE varies in focus, content, delivery, and intensity, beginning as early as elementary school and progressing throughout the middle grades, high school, and higher education. Elementary and

middle grade programs primarily focus on career awareness and exploration, with the goal of awakening children's imaginations about future possibilities. These programs consist of projects, speakers, field trips, and later, job shadowing; helping students learn through experience, exposing students to career options, and introducing students to the knowledge and skills associated with success in future careers — and in life.

Once in high school, student opportunities for career preparation must become more systematic. In the lower high school grades, CTE generally focuses on career orientation, which often includes beginning technical skill development, interdisciplinary activities involving essential workplace skills, and introductory work-based experiences such as job shadowing and project-based learning. In grades 10-12, students may enroll in specific career preparation programs offered by their high school or local Regional Occupational Centers and Programs (ROCPs) where they learn from educators with experience in business and industry. They can also then participate in internships, workplace experiences, and apprenticeships.

Some high schools have committed to integrating CTE and academic coursework by restructuring their schools as career-focused magnets or charters, or by creating academies or smaller learning communities within comprehensive high schools.
(*California State Plan for Career Technical Education*, page 6)

School leaders recognize that collaboration may take place in a variety of different venues (e.g., conferences, collaboration times, advisory boards, Chamber of Commerce, community service organizations). CTE conferences provide the opportunity for teachers to meet teachers of the same discipline from around the state. Collaboration through internet and email contacts, with job-alike professionals, may provide teachers new insight.

One of the most powerful collaboration designs creates regular time (weekly, bimonthly) during the school day for teachers to analyze data, identify trends, determine implications for instruction, and share effective instructional practices. When teachers are empowered to work together in a safe, nurturing, supportive environment, collaborative sessions bring synergy where the "whole is truly greater than the sum of its parts." Collaboration in this standards-based culture could also encourage CTE teachers to meet with academic teachers to discuss effective methods for teaching core Content Standards with the goal of reducing, or even eliminating, the separation between academic and technical programs of study and recognizing the value that both bring to one another in order to build a stronger integrated approach to learning.

Professional Learning Communities are another model of collaboration that instructional leaders should consider. The term *Professional Learning Community* describes a collegial group of administrators, instructors, business/industry personnel, who are united in their commitment to student learning. They share a vision, work and learn collaboratively, observe other teachers, review curriculum, and participate in decision making. The benefits to the staff and students include reduced isolation of teachers, better informed teachers, and educational gains for students. As an organizational arrangement, the Professional Learning Community is seen as a powerful staff-development approach and a potent strategy for school change and improvement. To implement Professional Learning Communities, administration and/or instructional leaders need to provide a collaborative setting that is professional, respectful, collegial, etc.

When implementing a collaborative model, the instructional leader needs to understand the following organizational guidelines:

1. Allocate and protect time for frequent, ongoing teacher collaboration.
   All teachers understand the importance of collaboration meetings and attend on a regular basis. Administration realizes the importance of these meetings and protects the time from interruptions. Collaboration time must be formally scheduled to ensure that teachers collaborate and that they collaborate around planning, teaching, and student learning.

2. Establish norms, collectively, to develop a climate for professional collaboration.
   Everyone has the right to speak, to have an opinion, and to be heard. For example, no one dominates the meeting and there are no distractions such as cell phones ringing, people correcting papers, etc.

3. Provide appropriate structures to ensure intentional and productive collaboration.
   The group appoints a facilitator, recorder, and time keeper. They agree on the duties of each appointee and the format for meetings, including the process of writing/distributing/storing the agenda and minutes.

4. Create a system to frequently debrief collaboration and refine/adjust processes as necessary.
   Debriefing sessions provide each participant the opportunity to discuss what has been accomplished and clarify information.

5. Extend an invitation to middle school and postsecondary pathway specific partners.
   Involving these partners ensures that a student's career pathway includes exploration opportunities in the middle school and extended learning opportunities in postsecondary education. This collaboration model also allows the partners to map student learning outcomes from awareness to a college/technical degree.

Summary

While collaboration may take many different forms, it is a proven method for improving schools and student achievement. Teacher collaboration provides time to analyze data, identify trends, determine implications for instruction, and share effective instructional practices. Collaboration is also an effective method for communicating with business and industry partners.

Role of Instructional Leader

Effective Organizational Design

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:

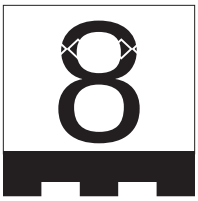
No.	Steps To Follow	Completed
7.1	Ensure that the master schedule provides time for planned teacher collaboration.	
7.2	Allocate and protect time for frequent, ongoing teacher collaboration meetings.	
7.3	Provide appropriate structures to ensure intentional and productive collaboration (facilitator, recorder, time keeper, and templates) and create a system to organize/store minutes, agendas, and artifacts.	
7.4	Create a system to frequently debrief collaboration and refine/adjust processes as necessary.	
7.5	Extend an invitation to middle school and postsecondary pathway specific partners to ensure that collaboration includes transition from the middle school and preparation for success in the student's chosen pathway.	
7.6	Include business and industry partners to be certain that curriculum, projects, and assessments are keeping pace with industry standards.	

Quality Program Checklist (Appendix A, page 136)

No.	Steps To Follow	Completed
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 Program of Study Course Sequencing Form, 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 Program of Study Course Sequencing Form, 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.	

Suggested Support Documents for High-Quality Element Seven

- Complete the High-Quality Element Seven (Effective Organizational Design) 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.



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)

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Eight is found in:
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)

Implications for Your CTE Plan

Ask yourself the question; "What is the purpose of CTE Courses?" The state CTE Framework answers the question:

> "As addressed in the *Education Code* mandates and the CDE vision statement, acquisition of the technical skills reflected in CTE foundation and pathway standards is one of the two primary purposes of education in the state – and practically the sole province of CTE. All students can benefit from basic technical and employability skills, whether they plan to pursue postsecondary training and education on the job; in the military; in the apprenticeship system; at a community college, adult school, or regional occupational center or program (ROCP); or at a four-year college or university. Acquiring technical skills in high school opens a world of options to students who may choose to do any of the following:
>
> a. Move directly into a full-time career-ladder job.
> b. Combine advanced career training with related post-secondary study.
> c. Maintain career-ladder part-time work while continuing in post-secondary education.
> d. Enter the workforce after postsecondary education with marketable skills."
>
> (*Career Technical Education Framework for California Public Schools*, pages 4 and 5)

Preparing students for the real world of work means instituting a demand-driven system that is responsive to current workforce needs and labor market realities and predictions. A demand driven educational system:

- Builds a curriculum that is relevant to both current and future workforce needs.
- Establishes public/private partnerships between industry and education to inform educational programs.
- Builds the capacity of educators and counselors so they maintain currency with the needs of the workplace.
- Ensures sufficient enrollments to meet workforce needs.

- Maintains sufficient funding to cover the cost of high quality CTE programs.
- Ensures consistent and reliable data about regional economic and labor markets to inform high schools, ROCPs, and community colleges for program planning.
- "Moves at the speed of business" to address workforce needs as quickly as possible. (*State Plan for Career Technical Education*, pages 107 and 108)

Making all CTE courses responsive to industry needs in high-skill, high-wage, and high-growth areas is imperative. The Governor's Career Technical Education Initiative of 2005–06 (SB 70) is modeled as an initiative to begin revitalizing CTE in high schools and create career pathways for middle and high school students. The Initiative has already expanded linkages from business and industry to high school CTE programs and industry advisory boards ensuring that the CTE course curriculum addresses workplace demands. Educators who update curriculum with the skills required for the workplace and align educational process to respond to industry needs are providing students with relevant curriculum to meet labor market demands.

> "Challenges to CTE becoming more of a demand-driven system include staying current and abreast of labor market demands and new occupational classifications, dealing with the complexities of industry partnerships, the lack of alignment among advisory boards, the lack of systematic processes or structures that would enable small businesses to communicate their needs to educators and education systems, and difficulties in reacting nimbly to changes in the workplace or the economy. The high cost of many CTE programs, especially at the community college level where state-of-the-art equipment and facilities are imperative, where faculty must continually update their curricula, and where class sizes must remain small in order to ensure skill mastery, can impede the creation or expansion of programs in response to the demands of industry. Resources for state leadership in this area have diminished over the last decade." (*State Plan for Career Technical Education*, pages 110 and 111)

One method to ensure that CTE courses keep pace with the rapidly changing business environment is through the effective communication of Employer Advisory Boards. During these meetings, business partners review curriculum and industry standards, make equipment recommendations, and ensures that course content reflects current workforce needs. Local ROCP partners can provide a quality resource for the development and operation of Employer Advisory Boards. A sample of Employer Advisory Board guidelines is located in Appendix A, page 143.

The marketplace is continually changing and teachers, working within the "four-walls" of their classroom must have the opportunity and desire to stay current with the changing demands of business and industry. Organizing and maintaining a mechanism to meet these continual changes in the CTE curriculum is one-way CTE programs can properly prepare students for future careers.

Role of Instructional Leader

Course Sequencing, Scheduling, and Pacing

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:

No.	Steps To Follow	Completed
8.1	Develop a mechanism that systematically tracks labor market demands, ensuring that teachers and counselors are informed of new development in the field.	
8.2	Keep close ties with the local community, understanding local workforce needs and shifts in the needs of the local market, modifying the curriculum to address these changes.	
8.3	Develop a single point of contact providing industry with a specific educational staff member to contact to communicate the changing needs of industry.	
8.4	Provide operational funds to support and expand CTE subject area expertise therefore maintaining an industry demand-driven system.	
8.5	Ensure that CTE employer advisory boards examine labor market information and regional economic data on an ongoing basis.	
8.6	Encourage partnerships among local businesses, local development, and educational organizations.	

Quality Program Checklist (Appendix A, page 137)

No.	Quality Program Indicators	Completed
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 labor markets for planning programs.	

- Complete the High-Quality Element Eight (System Responsiveness to Changing Economic Demands) 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.

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)

Essential Program Component Five:

Credentialed Teachers and Professional Development Opportunities

Teacher qualifications are reviewed to ensure that each CTE course is staffed by a qualified teacher as outlined by state law. Professional development activities, whether site-based, offered through the district, or by an external provider, support the Foundation, Pathway, and Industry Standards, resulting in a standards-aligned course curriculum.

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Nine is found in:
Chapter 3: Administrative and Support Services (CTE Framework, pages 70-97)

Implications for Your CTE Plan

The qualifications required of classroom teachers in all subjects have been a frequent topic of both conversation and legislation in recent years. Whether looking at credentialing or certification, mandates and legislation abound. Confusion can often result from rapidly changing expectations, but as expressed by dated adage: ignorance is no defense! It is the role of the administrator to remain aware of these rules, updated on all changes, cognizant of appropriate staff development opportunities, and prepared to certify compliance among the faculty.

Credentials and certificates, however, are not all it takes to be a highly qualified teacher. It is also the role of the administrator to evaluate teachers and be prepared to provide quality assessment and guidance where needed. Documents like the *California Standards for the Teaching Profession* (See Appendix A, page 207) can be a very effective guide for the ideal skills and attributes required for excellence in this challenging profession. Likewise, they provide a guide for those who undertake the evaluative process.

The State Plan states that CTE courses need to be "staffed by qualified CTE teachers, meaning teachers who: (1) possess a standard secondary, single-subject or designated-subject credential which authorizes the teaching of the CTE course(s) to which assigned; and (2) can document employment experience, outside of education, in the career pathway addressed by the program or other evidence of equivalent proficiency." (*State Plan for Career Technical Education*, page 223)

CTE Teacher Credentialing

Career Technical Education Designated Subjects Teaching Credentials authorize the holder to teach the subjects named on the credential in grades 12 and below, and in classes organized primarily for adults, in technical, trade or vocational courses which shall be part of a program of technical, trade or vocational education. In addition, the holder may serve as a substitute in any vocational class for up to 30 days for any one teacher during the school year.

Vocational Education Designated Subjects Teaching Credentials are no longer available for initial issuance; however, they may still be renewed. Please refer to the information for Career Technical Education Designated Subjects Teaching Credentials if you are seeking an initial credential authorizing vocational or career technical education on or after November 1, 2007.

Effective October 12, 2007 and described in CTC form CL-880, the Preliminary or Clear Full-Time Designated Subjects Career Technical Education Teaching Credential authorizes the holder to teach in the subjects named on the credential. The subjects named consist of titles of the 15 CTE industry sectors, as required by SB 52. These new requirements are for full-time preliminary and clear teaching credentials. Complete information concerning Designated Subjects CTE Teaching Credentials is described on form CL 880 from the Commission on Teacher Credentialing, available at: www.ctc.ca.gov/credentials/leaflets/cl880.pdf.

With the passage of SB 280, (summarized in the CTC coded correspondence number 07-24 dated December 19, 2007) holders of designated subjects vocational/career technical education and special subject teaching credentials and service credentials must have an appropriate English learner authorization if providing instruction to English learner students, (e.g., SDAIE, CLAD). (See *Implementation of Senate Bill 280*, Appendix A, 205) A chart comparing the new and previous teaching credential regulations is located in Appendix A, page 204.

In addition, CTE instructors who are offering high school core academic credit must meet the "highly qualified" teacher provisions stated in the Federal Law of *No Child Left Behind* (NCLB) or satisfy the "highly qualified" provisions through a district, board-approved policy as stated in Education Code Section 51225.3(b). (See *CDE Policy Pertaining to CTE Teachers Meeting the Highly Qualified Teacher Provision of NCLB*, Appendix A, page 206)

In September, 2008, SB 576 was signed into law which provided that the preliminary career technical education credential is valid for three years with the following revised requirements:

a. Three years of experience in the subject names on the credential
b. Possession of a high school diploma or equivalency
c. Satisfaction of teacher fitness (fingerprint clearance)
d. Minimum experience to teach the class assigned by the employer.

The requirements for the clear credential were also modified by SB 1104. Effective January 1, 2009, the commission will begin to issue credentials under these new requirements. Candidates may enroll in a current CTE preparation program until Augusts 1, 2010, or in a new approve program at any time.

For the latest information concerning CTE Teacher Credentialing, it is imperative that the administration review the information posted on the California Commission for Teacher Credentialing at *http://www.ctc.ca.gov/credentials/CREDS/adult-voc-ed.html.*

Pre-Service Training

The Commission on Teacher Credentialing has stated that new CTE teachers must receive training in classroom management, lesson planning, grading, safety procedures, and special needs of students. BTSA, a state-funded induction program, co-sponsored by the California Department of Education (CDE) and the Commission on Teacher Credentialing (CTC), is designed to support the professional development of newly credentialed teachers through professional development seminars. In this two-year program, beginning teachers are assigned to a support provider who will observe their instruction techniques, assist in lesson planning, and strive to help the beginning teacher improve. In this program, beginning teachers may receive university credit and complete their preliminary credential requirements.

Early orientation as a component of the new CTE standards (#3) is a required component of preservice training. Early orientation must take place before or during the first month of teaching and includes the introductory skills, knowledge, and attitudes required for beginning CTE teaching success.

CTE teachers, enrolled in a BTSA program, receive high quality professional development and support. These teachers often have a core academic teacher as a support provider, a collaborative approach that enhances the skills of both teachers. A beginning welding teacher, for example, will learn how to incorporate mathematic concepts into his/her welding curriculum while the math teacher gains further understanding on how to apply mathematics in "real-world" settings. However, "Beginning Teacher Support and Assistance (BTSA) programs are not widely offered for beginning CTE instructors, nor do existing BTSA programs generally incorporate support in areas that would provide CTE teachers with subject-area support, strengthen integrated strategies, or facilitate collaboration between CTE and non-CTE instructors." (*California State Plan for Career Technical Education*, page 114)

Professional Development

Professional development begins with the instructional leader guiding the design of a professional plan that will meet the needs that exist at the site, as well as incorporate available community resources. One professional development system could focus on developing course outlines that integrate Pathway and Foundation Standards into the curriculum using a course writing template, such as the one found on page 105. This plan would include:

1. Understanding the organization and content of the Foundation and Pathway Standards.
2. Identifying the Pathway and Foundation Standards that apply to the course.
3. Determining the sequence of standards, dictating the sequence of the course.
4. Identifying instructional strategies for teaching standards in the course.
5. Identifying methods for integrating standards into course assessments (e.g. performance tasks).

Another professional development system might focus on learning instructional techniques for teaching core Content Standards in the CTE classroom. The training would involve CTE instructors and key core academic content teachers working collaboratively on:

1. Methods for unpacking the identified standards.
2. Understanding the concept/skill of each Content Standard identified for the course.
3. Identifying effective teaching and assessment strategies for each Content Standard.
4. Learning methods for scoring standards-based assessments.
5. Learning methods for interpreting assessment data.
6. Understanding how to modify the curriculum/lesson plan in relation to the information learned from the assessment data.
7. Write courses using "CTE Online."

"Plans are currently underway to provide professional development specifically to facilitate implementation of the CTE Model Curriculum Standards and Framework, given that many CTE instructors have expressed an interest in receiving guidance on curriculum integration and standards-based instruction in CTE." (*California State Plan for Career Technical Education*, page 115)

Another professional development system might focus on writing course sequences for each Career Pathway that includes a minimum of two CTE courses and one community college course. The course sequences could also include academic core classes and articulation to postsecondary.

Additional CTE professional development topics might include:

1. Implementing best practices in classroom instruction.
2. Learning reasons and methods for analyzing assessment data to enhance/modify instruction.
3. Implementing state requirements for Employee Advisory Boards (EAB). (See High-Quality Element One)
4. Learning up-to-date industry skills through externships and job shadowing

"Generally, professional development in CTE is offered through professional and industry conferences, workshops, and meetings. Teacher's externship and job shadowing opportunities are highly valued by those who have experienced the benefits they provide, but there is a much higher demand for these opportunities than there are opportunities available." (*California State Plan for Career Technical Education*, page 115)

Professional development should also focus on core academic teachers, providing training on utilizing project-based learning and other applied learning strategies to ensure that students can apply their knowledge and skills to solve real world, industry-based problems. Elements of this professional development plan may include:

1. Gaining an introduction to industry applications through worksite visits, summer externships, and other practical experiences.
2. Understanding the process for developing cross-disciplinary projects with real world applications and audiences.
3. Collaborating among academic and career technical teachers to create integrated lessons, projects, units of instruction, and complete courses within a pathway.
4. Connecting with professionals in various industries with whom teachers can consult to create an integrated curriculum that accurately reflects industry application.

All CTE professional development plans should incorporate the instructional skills outlined in the California Standards for the Teaching Profession. These standards provide a common language and vision that defines and develops the practice of teaching. The standards prompt reflection about teaching and learning; develop professional goals; and guide, monitor, and assess the progress of teachers. The standards, listed below, address the diversity of the student population in California's schools and reflect a holistic, developmental view of teaching:

1. Engaging and Supporting all Students in Learning
2. Creating and Maintaining Effective Environments for Student Learning
3. Understanding and Organizing Subject Matter for Student Learning
4. Planning Instruction and Designing Learning Experiences for all Students

5. Assessing Student Learning
6. Developing as a Professional Educator

(See *California Standards for the Teaching Profession*, Appendix A, page 207)

"Perkins IV requires that LEA's receiving these funds to provide professional development to CTE teachers, faculty, administrators, and career guidance and academic counselors, that promotes the integration of coherent and rigorous academic content standards and career and technical education curricula, including through opportunities for academic and career and technical teachers to jointly develop and implement curricula and pedagogical strategies." (*California State Plan for Career Technical Education*, page 112)

Summary

It is the role of the administration to ensure that all CTE teachers have proper credentials or are working toward a clear credential. It is also his/her role to ensure that CTE teachers have a professional development plan that incorporates the needs of teachers, integration of standards, development of standards-aligned courses, implementation of the state's expectation for Employee Advisory Board meetings, etc. Keeping up-to-date is the key.

Role of Instructional Leader

Skilled Faculty and Professional Development

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:

No.	Steps To Follow	Priority
9.1	Ensure that administration understands current CTE teacher credentialing requirements. (See *Comparison of New CTE Teacher Credential Requirements with Previous Requirements,* Appendix A, page 204)	
9.2	Verify that all CTE teachers have a current valid teaching credential and new CTE teachers are receiving credentials under the new CTC guidelines	
9.3	Verify that teachers instructing English learner students have an appropriate English learner authorization (e.g., SDAIE, CLAD) (See *Implementation of Senate Bill 280*, Appendix A, page 205)	
9.4	Verify that all CTE teachers, offering core academic credit for students, have met the guidelines for "Highly Qualified" Teachers. (See *CDE Policy Pertaining to CTE Teachers Meeting the Highly Qualified Teacher Provision of NCLB*, Appendix A, page 206)	
9.5	Use the BTSA induction program designed to support the professional development of newly-credentialed teachers.	
9.6	Verify that all teachers are keeping their credentials current. Most credentials are valid for five years and must be renewed within six months of the expiration by submitting the proper application and fees.	
9.7	Develop and implement a process for recruiting teachers who have knowledge, experience, and application of the industry sector.	
9.8	Ensure that administration is checking with the Commission on Teacher Credentialing (CTC) to learn about new CTE teacher credential requirements.	

Professional Development

No.	Steps To Follow	Completed

9.9	Establish a culture within the school/district in which effective professional development may occur.	
9.10	Establish a culture where CTE and academic teachers work together in a professional development setting sharing each other's expertise to develop integrated lessons, projects, units of instruction, and courses.	
9.11	Develop a professional development system that incorporates topics from CTE and the *California Standards for the Teaching Profession* (See Appendix A, page 207)	
9.12	Develop a professional development plan that focuses on: a. Integrating Pathway and Foundation Standards into the curriculum. b. Integrating techniques for teaching and assessing core Content Standards. c. Encouraging project-based learning and other applied learning strategies in core academic classes promoting real-world problem-solving for an authentic audience. c. Developing course sequences within Career Pathways. d. Implementing state requirements for Employee Advisory Boards.	
9.13	Use business and industry leaders to support professional development on up-to-date business and industry skills.	
9.14	Consider the professional needs of individual staff members and support them through targeted professional development opportunities.	

Quality Program Checklists (See Appendix A, page 137)

No.	Quality Program Indicators	Completed
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 1/2 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, NA=Not Applicable).	
9.D	A written record of minutes of action taken during CTE staff meetings is kept in department files.	

Suggested Support Documents for High-Quality Element Nine

Skilled Faculty

Professional Development

- Complete the High-Quality Element Nine (Skilled Faculty and Professional Development) 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.

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)

Essential Program Component Seven:

Student Achievement Monitoring System

Assessment data is used at the school, classroom, and student level to inform instruction and ensure progress towards mastery of all identified CTE Standards. Data from these assessments inform teachers and principals on the effectiveness of instruction, student's progress on identified standards, and the preparedness of students entering the job market and postsecondary education.

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Ten is found in:

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

Often heard complaints about standardized testing and the collection of data are that "nothing comes of it," -- a sense of testing for the sake of testing and the difficulty of analyzing the huge collections of test results. While in the past, these comments may have contained an element of truth, it is also true that 21st century technology is making it much faster and easier, not only to archive this material, but to quickly analyze and make effective use of the findings. Rapid and accurate analysis of student achievement data has made possible quick improvement of educational "hot spots," where instructional materials or delivery are not reaping the intended rewards. From this data, leadership can efficiently ascertain an effective approach to fixing the problem; whether staff development, alteration of the pacing of a class, review or replacement of instructional materials, or some other piece of the puzzle that is lacking.

Back to: 27

Using assessment effectively and efficiently means recognizing that different types of assessment tools are used for different purposes. As outlined in the CTE Framework, a variety of assessments and scoring tools are available to the CTE teacher:

1. Objective assessments used to assess factual knowledge (e.g., multiple choice, true/false, and/or short answer tests).
2. Subjective assessments used to assess performance-based activities (the evaluator determines the student's score based on a rubric or exemplar).
3 Authentic, project-based, and industry-based assessments ("real world" assessments) that allow the student to demonstrate his/her skills based on the benchmarks used in business/industry.
4. Criterion or standards-referenced tests, benchmark tests, and norm-referenced tests. These are often state tests (e.g., STAR, CAHSEE) that provide data on student knowledge of Content Standards.

(For more information, see *Types of Assessment and Scoring Tools* Appendix A, page 209)

California State Tests

STAR Testing

The Standardized Testing and Reporting Program (STAR) for the State of California provides annual summative testing of students in grades two through eleven. At the present time, the STAR Program includes the California Standards Test (CST), California Modified Assessment (CMA), California Alternative Performance Assessment (CAPA) and Standards-based Tests in Spanish (STS). The three kinds of CST's include: (1) CST based on content standards for a specific grade and subject; (2) CST administered in the secondary grades based on content standards for specific courses such Geometry, often called end-of-course CST; and (3) CST that covers selected content standards for a specific subject but for multiple grades. The CST, based on the California Content Standards, is administered to students in grades two through eleven, as noted below:

CST Assessment	Grade Level
English-language Arts	Grades 2-11
ELA Writing Sample	Grades 4 and 7
Mathematics	Grades 2-7
General Mathematics (students not enrolled in or not completing a standards-based mathematics course)	Grades 8 and 9
Algebra I (end-of-course CST)	Grade 7-11
Geometry, Algebra II (end-of-course CST)	Grades 8-11
Integrated Mathematics 1, 2, and 3 (end-of-course CST)	Grades 8-11
Summative High School Mathematics	Grades 9-11
History/Social Science (H/SS Standards in grades 4 and 5)	Grades 5
History/Social Science (H/SS Standards in grades 6, 7, & 8)	Grades 8
History/Social Science	Grades 9-11 (May or may not apply at grades 9 and 10)
Science	Grades 5 and 8
Science	Grades 9-12: Course specific assessments

Additional information about the STAR test can be found at http://www.cde.ca.gov/ta/tg/sr/resources.asp. The STAR test results are used to calculate the school's Academic Performance Index (API). At the high school level, the CAHSEE is also included in this calculation. Information concerning the API can be found at: http://www.cde.ca.gov/ta/ac/ar/.

California High School Exit Exam (CAHSEE)
The intent of the CAHSEE is to assess basic knowledge of California Content Standards in English/language arts and mathematics. The English/language arts portion is largely based on the English/language arts Content Standards for grades 9/10 while the mathematics portion is based on the seventh grade math and some Algebra I Content Standards. CAHSEE blueprints, study guides, and additional information are available on the CDE website www.cde.ca.gov.

Note: In preparation for the state testing program, CTE teachers could develop Content Standards-based assessments, written following the CAHSEE format. The assessments could be used as a pre-post test with the assessment data being analyzed and used to inform teachers about the effectiveness of their program in relation to the CAHSEE Content Standards. (See *Benchmark Assessment for CAHSEE ELA Standards*, Appendix A, page 211)

California English Language Development Test (CELDT)
CELDT results offer valuable information in monitoring the progress of English learners in English proficiency. Under Title III, LEA's who receive federal dollars for English learners and immigrant students are accountable for meeting two Annual Measurable Achievement Objectives (AMAO). The first AMAO is to increase the percentage of students making progress in learning English and the second requires annual increases in the percentage of students attaining English proficiency. In setting instructional program implementation goals, it is vital to understand the federal accountability provisions for English learners to attain English proficiency and the state's Content Standards.

Accountability Under *No Child Left Behind* (NCLB)
The NCLB Act of 2001 requires all Local Educational Agencies (LEAs) and schools to demonstrate Adequate Yearly Progress (AYP). By 2013-2014, the goal is to have 100% of all students scoring proficient, or above, in reading/language arts and mathematics. Under AYP criteria, adopted by the State Board of Education, a California LEA or school must: (1) meet Annual Measurable Objectives in reading/language arts and mathematics; (2) achieve 95% participation rates in the assessments; (3) demonstrate progress on the API; and (4) demonstrate progress toward increasing high school graduation rates.

The AYP score for high schools is based on the CAHSEE using the following criteria:

1. Participation rate: 95%
2. Passing rate for ELA: 44.5%
3. Passing rate for mathematics: 43.5%
4. Passing score: 380 points
5. API score: 650 or above
5. Graduation Rate: 83.1% or higher. If lower, show an increase of .1% in one year or .2% over two years.

For more information on AYP, read the *Overview of California's* 2008-2009 *Accountability Progress Reporting System* in Appendix A, page 214.

Academic Performance Index (API)

The school's Academic Performance Index (API) is based on the results of the STAR test. The statewide API base target for all schools in California is 800 points. As of May 2006, the annual growth target for each school and subgroup that is below 800 points is 5% of the difference between the school's base API and 800 points or a minimum of five points growth, whichever is greater. Information regarding the STAR program and API can be found at http://www.cde.ca.gov. For more information read *Overview of California's 2008-2009 Accountability Progress Reporting System* in Appendix A, page 214.

Consistent Assessment + Consistent Data Analysis = Consistent Improvement

The greatest single strategy to ensure student and program improvement over time is a consistent cycle of internal and external assessment. Planning regular assessments, analyzing the assessment data, and making appropriate curriculum/program changes is the key to consistent improvement.

Objective, subjective, and authentic assessments are tools when developing a cycle of internal and external assessments. Objective assessments provide data of the student's factual knowledge and are scored using an answer key. Subjective and authentic assessments (e.g., performance-based activities, writing assignments, "real-world" of business assessments) provide data of a student's performance and are scored using a rubric. The scoring rubric explains the criteria for each level of performance (advanced, proficient, basic, unacceptable) telling the student exactly what is expected. The rubric is most effective when given to the student, in writing, while introducing the task. (See *Performance Task Rubric*, Appendix A, page 217)

Analyzing the assessment data is the next step. If the instructor designs objective tests that check for mastery of specific standards, then a simple item analysis will indicate whether or not the instruction "worked" and which standard has been mastered. If the instructor is using a rubric to score authentic assessments, then simply charting the student scores will provide the needed data. In the process of collecting data, the CTE teacher should not overlook the following school-wide assessment data that is also required information for the Employers Advisory Board meetings:

1. CTE students' CST, CAHSEE, and other schoolwide test scores compared to the total school population.
2. Percent of students completing a CTE course and percent completing a CTE sequence of two or more courses.
3. Percent of CTE sequence completers who graduate.
4. Percent of CTE sequence completers placed in apprenticeship, military training, postsecondary education/training, or employment.
5. Enrollment and completion of students in non-traditional careers compared to the total CTE population.

   (*Career Technical Education Framework for California Public Schools*, page 80)

Local districts have purchased a data analysis program (e.g., Edusoft, Measures) that provides state and local assessment information for individual students. From this program, teachers can determine the proficiency level, based on the STAR data, for the school, sub group, and/or individual student. State assessment data may also be found on the California Department of Education's web site (www.cde.ca.gov). (See *Student Data Using the District's Data Analysis Program*, Appendix A, page 218).

Once the data has been analyzed, the instructor may find it is time to **modify instruction** by re-teaching the concept using a different teaching strategy; organizing the students into small groups, having the proficient students tutor the non-proficient students; and/or providing an enrichment activity for the proficient students who can re-teach the concept to the non-proficient students. The instructor may also need to make future modifications of his/her instructional plans, consider adding more time for that section of the course, or find different resource materials to ensure that all students master the Standards.

Summary

Assessment is an effective tool to determine if students have mastered the standards for the course. A consistent cycle of internal and external assessments and the analysis of the assessment data, is the backbone for making curriculum/program changes. State assessments and API/AYP scores have added a new dimension to accountability, making it necessary for all teachers to integrate Content Standards into their curriculum. Unique to the CTE field, **all** standards may be taught and assessed using performance assessments, providing students with a direct correlation to "real world" settings.

Role of Instructional Leader

Evaluation, Accountability, and Continuous Improvement

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:

No.	Steps To Follow	Completed
10.1	Ensure that teachers understand the different types of assessments used to monitor student achievement. (See *Types of Assessment and Scoring Tools*, Appendix A, page 209)	
10.2	Ensure that clear course goals for student learning outcomes have been identified in partnership with industry employees.	
10.3	Ensure that student achievement data regarding course goals and industry standards is generated and analyzed for course and instructional improvement.	
10.4	Ensure that CTE teachers understand how to format standards-aligned assessment questions to correlate with CAHSEE. (See *Benchmark Assessment for CAHSEE ELA Standards*, Appendix A, page 211)	
10.5	Ensure that CTE teachers understand API and AYP scores, their ramifications, and how test results are the basis for these scores. (See *Overview of California's 2008-2009 Accountability Progress Reporting System*, Appendix A, page 214)	
10.6	Ensure that CTE teachers understand the state testing system (STAR and CAHSEE) and how these assessments are aligned to Content Standards.	
10.7	Ensure that teachers understand how CTE courses add support to the standards-based state assessments and the school's API and AYP scores.	
10.8	Ensure that teachers understand how to develop and use a rubric for scoring assessments. (See *Performance Task Rubric*, Appendix A, page 217)	
10.9	Ensure that CTE teachers receive training on methods for disaggregating assessment data.	
10.10	Ensure that CTE teachers understand how to locate and interpret STAR data using the CDE website and/or district's data analysis program. (See *Student Data Using the District's Data Analysis Program*, Appendix A, page 218)	

Quality Program Checklists (See Appendix A, page 137)

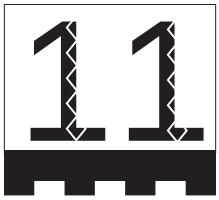
No.	Quality Program Indicators	Completed
10.A	A District CTE Plan is on file with the local administration and a copy is retained in the local department files.	
10.B	Updates to the CTE Plan are sent to the local administrator by February15th. These updates include: (1) Five Year Equipment Acquisition Schedule; (2) Chart of Staff Responsibilities; (3) CTSO Program of Work; and (4) Advisory Committee Roster.	

10.C	Enrollment report (CDE 101-E1)
	• All CTE courses are properly identified in Data System (including new courses)
	• Enrollment figures and reports are reviewed by:
	  • Site Staff and district CTE staff
	  • Site and district advisory committees
	• Completed and submitted by **October 15 to CTE**	

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: • Student placement status in postsecondary education or advanced training, in military service, or in employment. • Opinion regarding the value and relevance of the CTE program. • Suggestions for improving the CTE program.	
10.E	Graduate Follow Up/Placement Record (CDE 101-E2). The Graduate Follow Up data is collected and presented to the CDE by **March 10**.	
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	Expenditure reports (CDE 101-A and VE-5) are received by the CDE by September 30.	

Suggested Support Documents for High-Quality Element Ten

- Complete the High-Quality Element Ten (Evaluation, Accountability, and Continuous Improvement) 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.



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)

Career Technical Education Framework for California Public Schools
Supporting information for High-Quality Element Eleven is found in:
Chapter 4: Community Involvement and Communication (CTE Framework, pages 98-114)

Implications for Your CTE Plan

"Out of sight, out of mind" has been a phrase people have used for years. In CTE, many of the classes are out of sight and seem to be out of the minds of many counselors, non-CTE staff, and others in the educational community. With the development of the *California Career Technical Education Model Curriculum Standards*, CTE instructors are aligning curriculum to core Content Standards, helping students learn and apply concepts tested on the STAR test, and providing direction for students as they enter the world of work or take post-secondary classes.

As discussed in High-Quality Element Three (Career Exploration and Guidance), most high schools rely on the school counselor to schedule students into CTE courses, giving them the responsibility of developing the student's high school class schedule. In the process, the counselor is making sure the students have enough credits to graduate, scheduling courses that will assist in the student passing the California High School Exit Exam (CAHSEE), and scheduling classes that lead the student towards his/her post-secondary goals.

If CTE is going to compete for student enrollment with core subjects teaching CASHEE concepts to enable students to pass the exit exam, with academically challenging courses for college preparatory students, with remedial courses taught to move students to a score of proficient on the STAR test, etc., then CTE must promote the benefits of their courses by:

1. Conducting training sessions for counselors, helping them understand the variety of CTE courses available, course sequences, career pathways, and how CTE courses are aligned to the Content Standards, applying concepts students learn in core curriculum courses.
2. Conducting special events that inform students of career academies, pathways, and CTE courses.
3. Conducting career related events that encourage student participation in CTE courses.
4. Producing special events that inform community members about the benefits of CTE.

5. Using business and industry partners to help communicate the benefits of students taking CTE courses.
6. Conducting outreach to potential students through brochures, videos, career awareness education and informational meetings.

To ensure the entire community realizes the importance of CTE, a promotion, outreach, and communication process should encompass:

- Demonstrating how CTE promotes student academic achievement, as well as the attainment of technical and workplace skills, and contributes to enhanced student outcomes and long-term success.
- Promoting communication between CTE and non-CTE faculty.
- Communicating broadly with students, parents, community members, and policymakers about the opportunities and benefits offered through CTE.
- Ensuring that all administrators and counselors understand the benefits of CTE.
- Ensuring that students get the information they need about CTE programs at key decision points in course selection and career development.
- Ensuring that students are aware of the wide array of leadership and learning opportunities available through career technical student organizations.
- Communicating with incumbent workers about the training opportunities available to them in CTE programs.
- Generating political good will for further support and resources.
- Expanding and strengthening outreach efforts to encourage teaching in CTE as a profession.
- Ensuring that CTE course information is included in the School Accountability Report Card including:
  (1) programs and classes offered;
  (2) methods used to integrate CTE courses with academic courses and support of academic achievement;
  (3) methods used to address all student in career preparation;
  (4) measurable outcomes for CTE programs and the evaluation methods; and
  (5) data showing enrollment and completion of CTE courses.

"With few exceptions, the benefits of CTE programs have not been made widely known to educators at large or to the public in any systematic way across the state since the termination of school-to career funding in 2003. Further, in the current era of accountability and increased global competitiveness, CTE needs to demonstrate and trumpet its role in engaging students in learning and promoting high academic achievement, as well as in the development of students' technical and workplace skills."
(*California State Plan for Career Technical Education*, page 130)

Role of Instructional Leader

CTE Promotion, Outreach, and Communication

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:

No.	Steps To Follow	Completed
11.1	Ensure that school counselors understand CTE programs and course sequencing.	
11.2	Ensure the CTE program implements a plan that promotes the program to students, school staff, and the community.	
11.3	Ensure that CTE implements an outreach and awareness program that demonstrates the importance and availability of CTE programs.	

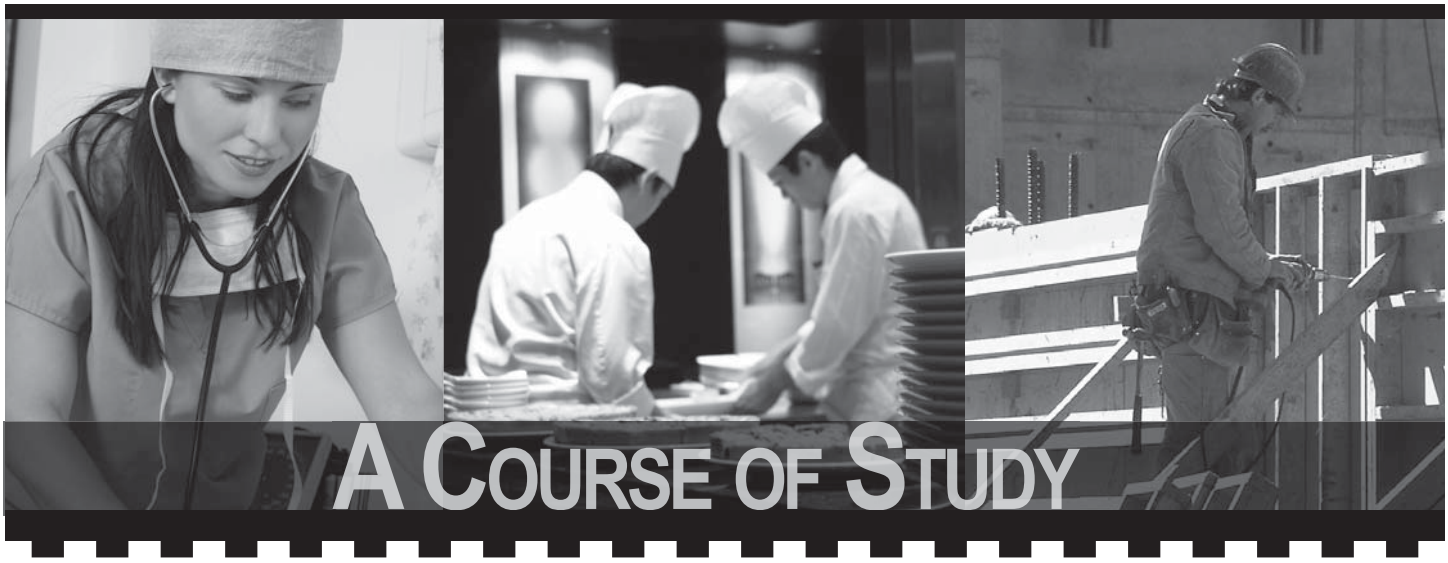
Quality Program Checklists (See Appendix A, page 137)

No.	Quality Program Indicators	Completed
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.	

- Complete the High-Quality Element Ten (Evaluation, Accountability, and Continuous Improvement) 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.

Section 2

Planning Templates for Developing A Standards-Aligned CTE System



CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

CTE Plan Template

This template should be used as a guideline for writing your CTE Plan, using these High-Quality Elements.

Getting Started

1.0 Leadership at all Levels

2.0 High-Quality Curriculum and Instruction

3.0 Career Exploration and Guidance

4.0 Student Support and Student Leadership Development

5.0 Industry Partnerships

6.0 System Alignment and Coherence

7.0 Effective Organizational Design

8.0 System Responsiveness to Changing Economic Demands

9.0 Skilled Faculty and Professional Development

10.0 Evaluation, Accountability, and Continuous Improvement

11.0 CTE Promotion, Outreach, and Communication

(This template is also available in digital format.)

Back to: 19 32 36 40 43 54 58 61 67 73 76

CTE Plan Template

Getting Started

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Related to the Curriculum					
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.				

1.0 Leadership at all Levels

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Related to Curriculum					
1.1	Ensure that CTE teachers integrate Pathway and Foundation Standards into CTE course curriculum.				
1.2	Implement a cycle of assessment and data analysis resulting in program modifications based on the assessment data.				
1.3	Ensure that professional development plans focus on best practices, integrating standards into course curricula, and current innovations in business/industry.				
1.4	Ensure that core academic teachers, working in pathway programs and academies, have appropriate and substantial professional development to better understand the real world application of their academic disciplines (e.g., summer externships in business/industry).				
1.5	Ensure that leadership is an integral component in every CTE course and affiliation with the appropriate Career Technical Student Organization (CSTO) (See *Career Technical Student Organizations*, Appendix A, page 176)				
Related to Instruction					
1.6	Ensure that teachers are integrating differentiated instructional techniques into the curriculum meeting the needs of EL students and other significant subgroups.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Related to Course Sequencing					
1.7	Ensure that all CTE courses are part of a course sequence leading to postsecondary education, industry certification, and/or high-skilled employment.				
1.8	Monitor the CTE program to ensure that all students have access to all CTE programs.				
1.9	Ensure that students have the opportunity to develop a career goal by accessing career information and receiving adult guidance for courses and programs.				
1.10	Ensure that CTE programs are building community, business, and/or industry partnerships.				
1.11	Ensure that CTE teachers understand the role of community partners and how these partners can provide help for CTE programs.				
Related to Program Evaluation					
1.12	Ensure that a process is in place to evaluate CTE programs on a regular basis. (See *CTE Quality Program Checklist*, Appendix A, page 135)				
Related to Financial Support					
1.13	Develop a CTE plan that includes a robust strategy for financial support.				
1.14	Ensure that CTE is represented during the district's budget building process, providing assessment data that demonstrates the importance of CTE programs for increased student achievement.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
1.15	Ensure that the needs of CTE programs to support student achievement are reflected in the school/district budget.				
1.16	Ensure that federal funds are used to strengthen the academic and career technical skills of CTE students and staff is aware of federal, state, and discretionary grant funds and understands the process/ procedure for writing a grant.				
1.17	Ensure that district leadership is committed to using general fund dollars to support a rigorous CTE program.				
1.18	Ensure that leadership distributes and evaluates assessment of budget needs prior to developing the budget. (See *Fiscal Plan Needs Assessment*, Appendix A, page 138)				
1.19	Ensure that the educational community establishes program priorities, identifies resources, and aligns the budget to identified priorities. (See *Budget Planning Road Map*, Appendix A, page 140)				
1.20	Ensure that leadership reviews all possible funding sources prior to building the budget. (See *Budget Planning Matrix – Uses and Funding Options*, Appendix A, page 141)				
Related to the Employer Advisory Board					
1.21	Ensure that Employer Advisory Boards: • Consist of the appropriate membership. • Focus on program, student, and industry needs. • Create an agenda and minutes that reflect the goals of the meeting. (See *Employer Advisory Board Guidelines*, Appendix A, page 143)				

2.0 High-Quality Curriculum and Instruction

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Standards-Aligned Courses					
2.1	Ensure that CTE instructors understand the Foundation and Pathway Standards listed in the California Career Technical Education Model Curriculum Standards document. (See *CTE Foundation Standards*, Appendix A, page 156 and *CTE Pathway Standards*, Appendix A, page 157)				
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 *CTE Aligned Content Standards Chart,* Appendix A, page 159, and/or *CTE "Hot List" for California Content Standards*, Appendix A, page 160)				
2.4	Ensure that CTE instructors identify Content Standards that are listed on the STAR and CAHSEE blueprints. (See www.cde.ca.gov)				
2.5	Ensure that CTE instructors have a procedure for writing their standards-aligned CTE course. (See *Writing a Standards-aligned Course: A Step-by-Step Process*, Appendix A, page 164)				
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.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
2.8	Ensure that CTE instructors understand that a writing assignments may be used to assess writing strategies, applications, and written convention standards. (See *Standards-Aligned Writing Application Form*, Appendix A, page 162)				
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 *Sample Course Using CTE Online*, Appendix A, page 165)				
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.				
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.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Instructional Practices					
2.15	Ensure that CTE teachers understand the process of unpacking the standards for their course. (See *Unpacking the Standards*, 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 *Career Technical Education Framework for California Public Schools*, pages 137-445)				
2.17	Ensure that CTE teachers design assessments that measure the extent to which students have mastered the standards. (See *Designing Standards-based Assessments*, Appendix A, page 170)				
2.18	Ensure that CTE teachers design lessons beginning with the identification of the standard. (See *Lesson Plan Format* Appendix A, 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.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
2.22	Ensure that CTE teachers understand the process and importance of examining student work. (See *Examining Student Work*, Appendix A, page 172)				
2.23	Ensure that CTE teachers use assessment data to make immediate modifications to their instructional strategies. (See *Using Assessment Data to Drive Instruction*, 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					
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 *Sample Pacing Guide for CTE Courses*, Appendix A, page 174)				
2.27	Ensure that the master schedule provides opportunities for student collaboration and student access to CTE courses.				

3.0 Career Exploration and Guidance

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
3.1	Ensure all counselors understand what CTE is and why it is a viable option for all students.				
3.2	Ensure that counselors understand CTE course sequencing, knowing that introductory and concentration courses provide the foundation for advanced or capstone courses.				
3.3	Ensure the school implements Programs of Study that incorporate secondary and post- secondary elements, rigorous content aligned curriculum, and aligned courses that leads to an industry recognized credential, certificate, or degree at the post-secondary level.				
3.4	Ensure that teachers, counselors, and administrators have an understanding of CTE industry sectors and pathways.				
3.5	Ensure that a CTE representative in on all major school committees to advocate for CTE.				

4.0 Student Support and Student Leadership Development

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Student Support					
4.1	Ensure that CTE instructors modify their curriculum and instructional practices to meet the instructional needs of all students.				
4.2	Ensure that course activities allow universal access for all students, providing physical and instructional adaptations to special needs students.				
4.3	Ensure that CTE programs provide needed support to special student populations including outreach programs, links to services, instructional support, etc. (*Perkins and Consolidated Program for Special Populations*, Appendix A, page 175)				
Student Leadership					
4.4	Ensure the CTE curriculum includes structured activities to build the student's leadership skills.				
4.5	Ensure that CTE instructors encourage students to join course-related national Career Technical Student Organizations (CTSO). (See *Career Technical Student Organizations*, Appendix A, page 176)				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
4.6	Ensure CTE instructors understand that local CTSO chapters must be properly affiliated (chartered) with appropriate state associations.				
4.7	Ensure that the local CTSO chapter provides opportunity for all student enrolled in the pathway to be affiliated with the appropriate state association.				
4.8	Ensure that the local CTSO chapter elects student officers and conducts monthly meetings for all students enrolled in the career pathway.				
4.9	Ensure that local CTSO chapters have students registered and in attendance at the Annual State Leadership Conference.				

5.0 Industry Partnerships

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
5.1	Ensure all CTE programs conduct Employer Advisory Board Meetings on a regular basis.				
5.2	Ensure that all Employer Advisory Board Meetings follow an agenda that allows business/industry representatives to gain an understanding of the course and provide input. (See *Employer Advisory Board Guidelines*, Appendix A, p. 143)				
5.3	Ensure that CTE teachers strive to build positive relationships with business and industry representatives.				

6.0 System Alignment and Coherence

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Course Sequencing					
6.1	Ensure CTE teachers understand legislation for developing State-funded course sequences.				
6.2	Ensure that CTE teachers use the school/district format for certifying course sequences.				
6.3	Ensure that CTE teachers understand legislation for developing Carl Perkins funded course sequences. (See *State-Funded Course Sequencing Plan for ROCPs per AB 2448*, Appendix A, page 179)				
6.4	Ensure that teachers review the various forms for writing course sequences including: • *Identification of the Career Technical Education (CTE) Sequence of Courses to be Assisted with Perkins IV Funds*, Appendix A, page 180 • *Career Pathway Programs of Study Development Process*, Appendix A, page 181 • *Education Component for Career Pathway Program of Study Development Process*, Appendix A, page 182 • *Program of Study Course Sequencing Form*, Appendix A, page 183 • *Program of Study Worksheet*, Appendix A, page 184 • *SB 70 Course Sequencing Form*, Appendix A, page 185				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
6.5	Ensure teachers understand and review the sample course sequencing documents available for their particular pathway. (See *Sample Course Sequences and Related Occupations* Appendix A, page 186)				
6.6	Develop a process for writing course sequence plans that include the steps defined in the CTE Framework, pages 110-111.				
6.7	Ensure that CTE teachers write course sequences by identifying courses as Introductory, Concentration, or Capstone, including a minimum of two CTE courses in each sequence.				
6.8	Ensure that the school/ district publish course sequences.				
6.9	If the school/district is not following the AB 2448 timeline for developing course sequences, ensure that CTE teachers review the Corrective Action Plan (CAP) timeline. (See *Corrective Action Plan Timeline*, Appendix A, page 201)				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Scheduling					
6.10	Ensure that counselors understand the importance of CTE course sequences and incorporate these into the student's class schedule.				
6.11	Ensure that CTE instructors, or counselors, annually assist the student in completing a career plan. (See *ROP/CTE Career Plan Form*, Appendix A, page 202)				
6.12	Ensure that CTE courses are entered into the master schedule to maximize enrollment in, and completers of, course sequences.				
6.13	Ensure that counselors receive training on methods for scheduling CTE course sequences for the low-performing students, taking into account the mandates of API and AYP.				
Pacing Guides and Student Groupings					
6.14	Review all CTE course outlines to ensure that the pacing guides are included. (See *Sample Pacing Guide for CTE Courses*, Appendix A, page 174)				
6.15	Ensure that CTE instructors incorporate/implement pacing guides into their curriculum.				

7.0 Effective Organizational Design

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
7.1	Ensure that the master schedule provides time for planned teacher collaboration.				
7.2	Allocate and protect time for frequent, ongoing teacher collaboration meetings.				
7.3	Provide appropriate structures to ensure intentional and productive collaboration (facilitator, recorder, time keeper, and templates) and create a system to organize/ store minutes, agendas, and artifacts.				
7.4	Create a system to frequently debrief collaboration and refine/ adjust processes as necessary.				
7.5	Extend an invitation to middle school and postsecondary pathway specific partners to ensure that collaboration includes transition from the middle school and preparation for success in the student's chosen pathway.				
7.6	Include business and industry partners to be certain that curriculum, projects, and assessments are keeping pace with industry standards.				

8.0 System Responsiveness to Changing Economic Demands

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
8.1	Develop a mechanism that systematically tracks labor market demands, ensuring that teachers and counselors are informed of new development in the field.				
8.2	Keep close ties with the local community, understanding local workforce needs and shifts in the needs of the local market, modifying the curriculum to address these changes.				
8.3	Develop a single point of contact providing industry with a specific educational staff member to contact to communicate the changing needs of industry.				
8.4	Provide operational funds to support and expand CTE subject area expertise therefore maintaining an industry demand-driven system.				
8.5	Ensure that CTE employer advisory boards examine labor market information and regional economic data on an ongoing basis.				
8.6	Encourage partnerships among local businesses, local development, and educational organizations.				

9.0 Skilled Faculty and Professional Development

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Skilled Faculty					
9.1	Ensure that administration understands current CTE teacher credentialing requirements. (See *Comparison of New CTE Teacher Credential Requirements with Previous Requirements*, Appendix A, page 204)				
9.2	Verify that all CTE teachers have a current valid teaching credential and new CTE teachers are receiving credentials under the new CTC guidelines				
9.3	Verify that teachers instructing English learner students have an appropriate English learner authorization (e.g., SDAIE, CLAD) (See *Implementation of Senate Bill 280*, Appendix A, page 205)				
9.4	Verify that all CTE teachers, offering core academic credit for students, have met the guidelines for "Highly Qualified" Teachers. (See *CDE Policy Pertaining to CTE Teachers Meeting the Highly Qualified Teacher Provision of NCLB*, Appendix A, page 206)				
9.5	Use the BTSA induction program designed to support the professional development of newly-credentialed teachers.				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
9.6	Verify that all teachers are keeping their credentials current. Most credentials are valid for five years and must be renewed within six months of the expiration by submitting the proper application and fees.				
9.7	Develop and implement a process for recruiting teachers who have knowledge, experience, and application of the industry sector.				
9.8	Ensure that administration is checking with the Commission on Teacher Credentialing (CTC) to learn about new CTE teacher credential requirements.				
Professional Development					
9.9	Establish a culture within the school/district in which effective professional development may occur.				
9.10	Establish a culture where CTE and academic teachers work together in a professional development setting sharing each other's expertise to develop integrated lessons, projects, units of instruction, and courses.				
9.11	Develop a professional development system that incorporates topics from CTE and the *California Standards for the Teaching Profession* (See Appendix A, page 207)				

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
9.12	Develop a professional development plan that focuses on: a. Integrating Pathway and Foundation Standards into the curriculum. b. Integrating techniques for teaching and assessing core Content Standards. c. Encouraging project-based learning and other applied learning strategies in core academic classes promoting real-world problem-solving for an authentic audience. c. Developing course sequences within Career Pathways. d. Implementing state requirements for Employee Advisory Boards.				
9.13	Use business and industry leaders to support professional development on up-to-date business and industry skills.				
9.14	Consider the professional needs of individual staff members and support them through targeted professional development opportunities.				

10.0 Evaluation, Accountability, and Continuous Improvement

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
Skilled Faculty					
10.1	Ensure that teachers understand the different types of assessments used to monitor student achievement. (See Types of Assessment and Scoring Tools, Appendix A, page 209)				
10.2	Ensure that clear course goals for student learning outcomes have been identified in partnership with industry employees.				
10.3	Ensure that student achievement data regarding course goals and industry standards is generated and analyzed for course and instructional improvement.				
10.4	Ensure that CTE teachers understand how to format Standards-aligned assessment questions to correlate with CAHSEE. (See Benchmark Assessment for CAHSEE ELA Standards, Appendix A, page 211)				
10.5	Ensure that CTE teachers understand API and AYP scores, their ramifications, and how test results are the basis for these scores. (See Overview of California's 2008-2009 Accountability Progress Reporting System, Appendix A, page 214)				

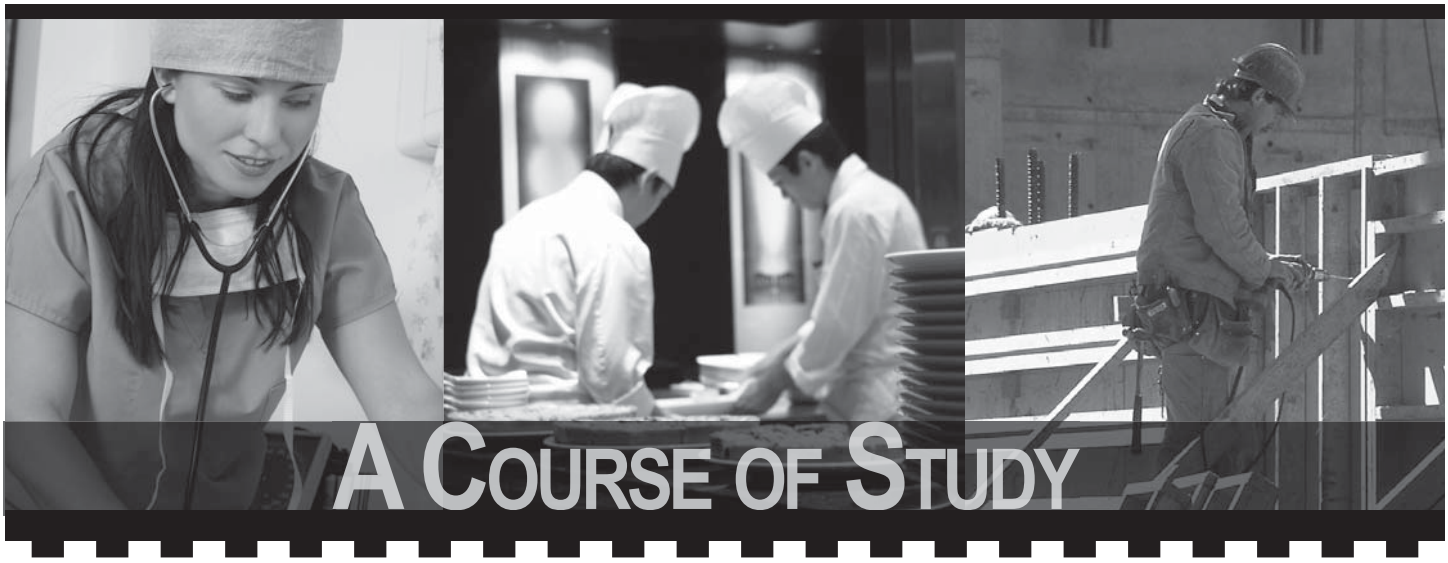
No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
10.6	Ensure that CTE teachers understand the state testing system (STAR and CAHSEE) and how these assessments are aligned to Content Standards.				
10.7	Ensure that teachers understand how CTE courses add support to the standards-based state assessments and the school's API and AYP scores.				
10.8	Ensure that teachers understand how to develop and use a rubric for scoring assessments. (See *Performance Task Rubric*, Appendix A, page 217)				
10.9	Ensure that CTE teachers receive training on methods for disaggregating assessment data.				
10.10	Ensure that CTE teachers understand how to locate and interpret STAR data using the CDE website and/or district's data analysis program. (See *Student Data Using the District's Data Analysis Program*, Appendix A, page 218)				

11.0 CTE Promotion, Outreach, and Communication

No.	Steps to Follow	Our Plan	Person Responsible	Start Date	Date Completed
11.1	Ensure that school counselors understand CTE programs and course sequencing.				
11.2	Ensure the CTE program implements a plan that promotes the program to students, school staff, and the community.				
11.3	Ensure that CTE implements an outreach and awareness program that demonstrates the importance and availability of CTE programs.				

Section 3

Standards-Aligned Course Writing Template
and
Sample CTE Course Using the Course Writing Template



CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

CTE Standards-Aligned Course Writing Template

(Course Title)

COURSE APPROVAL

Course submitted by:

Name _____ Position _____ School _____

Signature _____ Date _____

Course reviewed by the ROP Coordinator
(if appropriate to school and/or district course approval process)

Signature _____ Date _____

Course approved by the School Superintendent or Assistant Superintendent of Curriculum and Instruction

Superintendent/Assistant Superintendent

Name _____ Position _____

Signature _____ Date _____

Course approved by the School Board

School Board President: (President's Name)

Signature _____ Date _____

Back to: 23 29 30 32 64

(Course Title)

Course reviewed by Members of the Employer Advisory Board (EAB)

1. _____ _____
Name of Advisory Committee Member — Date

_____ _____
Place of Business — Occupation

2. _____ _____
Name of Advisory Committee Member — Date

_____ _____
Place of Business — Occupation

3. _____ _____
Name of Advisory Committee Member — Date

_____ _____
Place of Business — Occupation

4. _____ _____
Name of Advisory Committee Member — Date

_____ _____
Place of Business — Occupation

5. _____ _____
Name of Advisory Committee Member — Date

_____ _____
Place of Business — Occupation

(Course Title)

Basic Course Information

Course Title:	
CTE Industry Sector:	
Career Pathway:	

Course Level:		Introductory		Concentration		Capstone

Local Course Number:	
CBEDS Title:	
CBEDS Number:	

Course Hours:	
Articulation Information:	
Academic Credit:	
Advisory Committee Meetings:	

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

Instructional Strategies

Instructional Materials

Instructional Units

Unit 1		Class Hrs.		Lab Hrs.	

Description:

Unit 2		Class Hrs.		Lab Hrs.	

Description:

Unit 3		Class Hrs.		Lab Hrs.	

Description:

Unit 4		Class Hrs.		Lab Hrs.	

Description:

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 Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech CP = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	

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, AII = Algebra II, PS = Probability and Statistics, SS = Social Science, P = Physics, C = Chemistry, B = Biology/Life Science, **I/E = Investigation/Experimentation**

Entrepreneurship: Small Business Management

COURSE APPROVAL

Course submitted by:

Jon Jones	Teacher	Big River High School
Name	Position	School

Jon Jones	5/22/07
Signature	Date

Course reviewed by the ROP Coordinator
(if appropriate to school and/or district course approval process)

Mary Smith	5/23/07
Signature	Date

Course approved by the School Superintendent or Assistant Superintendent of Curriculum and Instruction

Superintendent/Assistant Superintendent

Pete Dunkin	Superintendent
Name	Position

Pete Dunkin	5/28/07
Signature	Date

Course approved by the School Board

School Board President: Alice Espinoza

Alice Espinoza	6/4/07
Signature	Date

Back to: 23 30 32

ENTREPRENEURSHIP: SMALL BUSINESS MANAGEMENT

Course reviewed by Members of the Employer Advisory Board (EAB)

1. _____ _____
James Smith, Jr. Date
_____ _____
Big River Independent Bank Bank Manager

2. _____ _____
Mary Jones Date
_____ _____
Walmart Book Keeper

3. _____ _____
Sonya Esponisa Date
_____ _____
McDonald's Restaurant Shift Manager

4. _____ _____
Sam Donaldson Date
_____ _____
Big River High School Business Manager

5. _____ _____
Alberto Alverez Date
_____ _____
Alverez Jewelry Store Business Owner

ENTREPRENEURSHIP:
SMALL BUSINESS MANAGEMENT

Basic Course Information

Course Title:	Entrepreneurship: Small Business Management
CTE Industry Sector:	Marketing, Sales, and Service Industry Sector
Career Pathway:	Entrepreneurship

Course Level:		Introductory		Concentration	***X***	Capstone

Local Course Number:	6326
CBEDS Title:	Small Business Ownership and Management
CBEDS Number:	4638

Course Hours:	A one-year course, 2 hours per day, total of 360 hours.
Articulation Information:	Articulation with Shasta Junior College
Academic Credit:	Students taking this course receive 5 units of Mathematics reinforcement credit.
Advisory Committee Meetings:	The advisory committee meets annually. Additional meetings are held at the discretion of the instructor.

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** * Denotes Capstone Course	**Grade 12** * Denotes Capstone Course	**Post-secondary course, certificate or degree program**
	Keyboarding 1A	Keyboarding 1B	Accounting	Accounting	Accounting
	Computer Literacy	Record Keeping	Record Keeping	Record Keeping	Business Management
	Personal Finance	Computer Applications	Finance	Principles of Business	Marketing
	Calculator Math	Desktop Publishing	* Marketing and Management	* Marketing and Management	Customer Service Academy

Occupations for Identified Pathway

Pathway occupations organized by level of education and training required for workplace entry. (Asterisked occupations require certification or licensure.)		
High School (diploma)	**Postsecondary Training** (certification and/or AA degree)	**College University** (bachelor's degree or higher)
• Customer Service Representative • Small Business Entrepreneur	• Franchisee • Marketing Manager • Regional Sales Manager • Retail/Wholesale Buyer	• Chief Executive Officer • National Account Manager • Business Teacher • Account Executive

Course Goals

1.	The student will understand the importance of personal and professional behavior in the workplace.
2.	The student will understand the basic aspects of entrepreneurship.
3.	The student will understand the elements and purpose of a business plan.
4.	The student will understand how to use technology in a small business to gain a competitive advantage.
5.	The student will understand effective marketing of a small business.
6.	The student will understand the key economic concepts that affect small business ownership.
7.	The student will develop a personal portfolio of career documents.

***Course Objectives*:** By the end of this course, students will be able to:

1.	Compute basic math problems including addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions as they relate to the world of business.
2.	Convert percents to decimals, round off numbers, and change fractions to decimals as they relate to the world of business.
3.	Demonstrate knowledge about the workings of the market, which will include needs, wants, supply, demand, and product utility.
4.	Explain advantages and disadvantages of sole proprietorship, partnership, corporations, cooperatives and franchises.
5.	Apply knowledge of local, county, state, and federal laws that govern activities for public protection to business operations.
6.	Complete job applications, prepare a resume, and conduct job interviews with "out of class" personnel and fill out various business forms
7.	Project business income and calculate payrolls and tax forms using a word processing program, computers, spreadsheets, and the ten key calculator.
8.	Demonstrate an understanding of planning, production, and display of products
9.	Complete a marketing research study for a business of his/her choice.
10.	Demonstrate appropriate customer service skills including the ability to complete sales transactions.

Course Description

The Small Business Management course is designed for the student who ultimately wants to own or manage a business enterprise of some type or wants to gain a broad-based introduction into the business field in preparation for further academic studies in this curriculum area. Topics covered include types of businesses, location, legal aspects, financial considerations, marketing, and employee needs. Students will learn personal and professional behaviors, basic aspects of entrepreneurship, business marketing, economics, workplace technology, and job readiness skills. Students will leave this class with a portfolio containing documents for entering the career field of marketing and management.

Instructional Strategies

During the course new topics are introduced with brief remarks from the instructor. Students then use textbook resources to study the concept. Next the instructor delivers an in-depth lecture about the concept, providing "real life" stories to enhance learning, noting the similarities and differences between the textbook and "real life" experiences. Individual problem solving activities, internet research, and group projects are used to further student learning. Writing assignments, a marketing plan, mock interviews, career portfolio, and unit assessments are used to evaluate student learning.

On the job site, students learn, first hand, the day-to-day operation of a business, important lessons concerning employee-employer relations, and proper employee-customer relations.

Instructional Materials

The Small Business Management course uses the following materials:

Textbooks

1. *Business Principles and Management*
2. *Marketing: An Introduction*

Workbooks

1. *Marketing Math*
2. *Ultra-Video*, *mathematics simulations*
3. *Advertising: planning and techniques*
4. *Superior Customer Service*

Activity Packets

1. *MarkEd*: Economics Learning Activity Packets
2. *MarkEd*: Selling Learning Activity Packets
3. *MarkEd*: Marketing Learning Activity Packets
4. *MarkEd*: Human Relations Learning Activity Packets
5. *MarkEd*: Promotion Learning Activity Packets

Software

1. *Microsoft Excel, Word, and PowerPoint*

Instructional Units

Unit 1	**Introduction**	Class Hrs.	**4**	Lab Hrs.	**2**

Description:

Students gain an introduction to the course and learn class expectations. They are introduced to the common traits exhibited by successful entrepreneurs, looking at personal qualifications, interests, aptitudes, knowledge, and skills necessary to succeed in this career pathway. Students examine the historical and economic significance of entrepreneurs in our society and present opportunities in the field. Students explore career opportunities and examine the personal, professional, and educational requirements needed to meet their goals. Upon successful completion of this class, students will have developed their own career plan and personal portfolio.
(Supports Pathway Standards B 1.1 & B 5.1)

Unit 2	**Personal and Professional Behavior in the Work Place**	Class Hrs.	**4**	Lab Hrs.	**2**

Description:

Students understand the importance of problem solving and critical thinking skills to the successful entrepreneur. They learn the importance of personal responsibility, flexibility, leadership, teamwork, and how these skills contribute to the success of the small business. Students understand the role of ethics, values, and legal requirements imposed by society as well as common health and safety policies, procedures, and regulations. The students understand common work place expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette.
(Supports Pathway Standards B 1.1 and B 5.3)

Unit 3	***Basic Aspects of Business Ownership***	Class Hrs.	**45**	Lab Hrs.	**24**

Description:

Students understand advantages and disadvantages of owning and/or managing a small business. They learn principles and procedures of accounting, finance, and risk management as well as pricing strategies, distribution, inventory control, marketing, and human resources management. During this unit, students learn about purchase orders, invoices, bank statements, contracts, and other documents commonly used in business.
(Supports Pathway Standards B 1.1, B 1.2, B 1.3, B 1.4, B 1.5, B 1.6, & B 1.7)

Unit 4	***Elements and Purpose of a Business Plan***	Class Hrs.	**18**	Lab Hrs.	**8**

Description:

Students understand the importance and structure of a small business plan and its importance in conducting subsequent market research and business planning. Students develop a financial outline of the business including capital needs, income, and expense projections. Using different activities, students analyze a proposed business situation, its potential market, process for starting the business, and factors that contribute to its expansion and success.
(Supports Pathway Standards B 2.1, B 2.2, B 2.3, B 2.4, and B 2.5)

Unit 5	***Technology in a Small Business***	Class Hrs.	**11**	Lab Hrs.	**5**

Description:

Students learn how technology and electronic media can be used to enhance business efficiency. They apply technology in the areas of cash control, inventory control, and budget analysis. They gain an understanding of internet commerce and its growing role for the entrepreneur.
(Supports Pathway Standards B 3.1, B 3.2, and B3.3)

Unit 6	***Daily Operation of a Small Business***	Class Hrs.	**18**	Lab Hrs.	**2**

Description:

Students understand the components of a promotional plan and how the plan is implemented to achieve business goals. They learn selling techniques used to aide customers and clients in making buying decisions. They understand the product life cycle, how products and services are conceived, developed, maintained, and improved in response to market opportunities. Through class activities, students demonstrate an understanding of product displays, pricing strategies, and sales policies used by small businesses.
(Supports Pathway Standards B 4.1, B 4.2, B 4.3, and B 4.4)

Unit 7	***Key Economics Concepts that Affect Small Business Ownership***	Class Hrs.	**14**	Lab Hrs.	**4**

Description:

Students understand the importance of entrepreneurship in the economy and how fiscal/monetary policies and government legislation affect small businesses. They understand how the basic economic principles of supply and demand, pricing, production, scarcity, and allocation affect the decision-making processes of the entrepreneur. They also understand the importance of broad economic indicators and the role they play in guiding business decisions.
(Supports Pathway Standards B 5.1, b 5.2, B 5.3, B 5.4, B 5.5, and B 5.6)

Unit 8	***Career Planning***	Class Hrs.	**5**	Lab Hrs.	**14**

Description:

Students create a sample cover letter, personal resume, completed job application, thank you letter, and list of personal references. They develop their personal career portfolio that contains documents for getting a job as well as a career plan and selected work samples. Students practice appropriate interviewing techniques by taking part in mock interviews.
(Supports Foundation Standard 3.6)

Unit 9	***Supervised Work-Based Learning Experiences***	Class Hrs.	**36**	Lab Hrs.	**144**

Description:

Students work in a local business or school-based enterprise, reinforcing the day-to-day aspects of running a small business and the work place expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette. Students meet weekly with the ROP instructor to discuss experiences at the work place and receive further training. Students are evaluated on his/her performance by the work place supervisor and course instructor.

Totals	**Class Hrs.**	**155**	**Lab Hrs.**	**205**	**Class Hrs.**	**360**

Course Competencies

Unit 1: Introduction

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

1	Identify the personal qualifications, interests, aptitudes, knowledge, and skills of successful entrepreneurs.
2	Demonstrate an understanding of personal, professional, and educational requirements of this career field.

Unit 2: Personal and Professional Behavior in the Work Place

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

1	Apply appropriate problem solving and critical thinking skills in all class work.
2	Demonstrate positive teamwork and leadership habits in all class activities.
3	Demonstrate understanding of the importance of ethics, values, and laws as related to the work place.
4	Demonstrate knowledge of policies, procedures, and regulations related to the work place health and safety.
5	Demonstrate understanding of the common work place expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette.

Unit 3: Basic Aspects of Business Ownership

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

1	Demonstrate an understanding of the different types of business ownership and the advantages and disadvantages of each and their impacts upon the economy.
2	Demonstrate the ability to identify types of risk management used by business.
3	Demonstrate an understanding of the role of human resource management in the business.
4	Demonstrate an understanding of fundamental business financial concepts.
5	Demonstrate an understanding of the importance of proper pricing strategies.
6	Demonstrate the ability to use different types of business forms appropriately, including purchase orders, contracts, bank statements, etc.
7	Demonstrate an understanding of basic business marketing concepts.

Unit 4: Elements and Purpose of a Business Plan

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

1	Demonstrate knowledge of the reasons why a small business develops a business plan.
2	Demonstrate the ability to conduct and analyze market research in accordance with the business plan.
3	Demonstrate the ability to develop a financial plan that outlines sources of capital and projects income and expenses in accordance with the business plan.
4	Demonstrate an understanding of wages, overhead costs, packaging, advertising, displays, and mark-ups of goods in accordance with the business plan.

Unit 5: Technology in a Small Business

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

1	Demonstrate the ability to use the spreadsheet, word processors and the internet to perform common business functions.
2	Demonstrate knowledge and use of appropriate technologies in the areas of cash control, inventory control, and budget analysis.
3	Demonstrate an understanding of internet commerce and its growing role for the entrepreneur.

Unit 6: Daily Operaton of a Small Business

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

1	Demonstrate knowledge of the steps of the selling process.
2	Demonstrate knowledge of the customer decision-making process.
3	Demonstrate the understanding of a promotional plan and how the plan can be used to achieve the objectives of the business plan.
4	Use knowledge of the product life cycle to guide business decision-making.
5	Demonstrate an understanding of product displays, pricing strategies, and sales policies.

Unit 7: Key Economics Concepts that Affect Small Business Ownership

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

1	Demonstrate an understanding of the role of government intervention in the free enterprise system.
2	Demonstrate an understanding of the laws and regulations that impact business.
3	Demonstrate knowledge of the market economy including needs, wants, supply, demand, and product utility.
4	Demonstrate an understanding of economic measurements and how they are calculated.

Unit 8: Job Career Planning

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

1	Demonstrate the ability to write a cover letter.
2	Demonstrate the ability to complete a job application.
3	Demonstrate the ability to write a resumé.
4	Demonstrate successful job interview skills.
5	Successfully assemble a personal career portfolio.

Unit 9: Supervised Work-Based Learning Experiences

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

1	Demonstrate the ability to work successfully in a local business or school-based enterprise, learning the day-to-day aspects of running a small business.
2	Demonstrate the ability to "go to work" with a proper attitude towards the work place expectations of punctuality, professionalism, dress, demeanor, and telephone etiquette.

Standards-Aligned Course Outline for Small Business Management

Definitions:

Concepts: Knowledge the students must demonstrate to master the material. Concepts are facts, events, or ideas students must understand before they can learn the skill(s).

Skills: What students must demonstrate to show they can apply the concept(s). The skill must be described with action verbs (e.g., read, write, speak, listen, develop, demonstrate, produce).

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
1. Introduction a. Characteristics of Entrepreneurs b. Role of small businesses in the economy.	**Concepts:** 1. The common traits exhibited by entrepreneurs. 2. Historic and economic significance of small businesses in our society. **Skills:** 1. Research and explain the skills required of an entrepreneur. 2. Research and explain the role of small businesses in the economy,	**Concept Benchmarks** 1. Identify the common traits exhibited by entrepreneurs on a unit and vocabulary test. 2. Identify the historic economic significance of small businesses to our society on a unit and vocabulary test. **Skill Benchmarks:** 1. Write a list of the skills required of entrepreneurs using information from class discussions and internet searches. 2. Read and discuss articles from local print media that demonstrates the role of small business in the economy.	**LA – Grs. 9/10** R – 1.1 C – 1.1 C – 1.3 C – 1.4	 R R R R	PS B 1.1 PS B 5.1 FS – 3.1 FS – 3.5	R R R R		

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, AII = Algebra II, PS = Probability and Statistics, SS = Social Science, P = Physics, C = Chemistry, B = Biology/Life Science, I/E = Investigation/Experimentation

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
2. Personal and Professional Behavior in the workplace *a. Qualities and behaviors that constitute a professional work demeanor* *b. Policies, procedures, and regulations regarding safety in the workplace.*	**Concepts:** 1. Behaviors that constitute a positive and professional workplace demeanor. 2. Legal and ethical workplace behavior. 3. Policies, procedures, and regulations regarding safety in the workplace and the potential financial impact upon business from unsafe work environments. 4. Financial impact related to unsafe workplace environment. **Skills:** 1. Develop a code of workplace ethics. 2. Demonstrate workplace ethics in the classroom. 3. Develop a small business safety plan.	**Concept Benchmarks:** 1. Identify components of positive and professional work demeanor in a unit and vocabulary test. 2. Analyze workplace scenarios involving ethical and legal dilemmas on a unit and vocabulary test. 3. Identify safety policies, procedures, and regulations on a unit and vocabulary test. 4. Research local print media and the internet finding the cost to business from workplace safety violations and report to the class. **Skill Benchmarks:** 1. Write a code of personal workplace ethics that becomes the rubric for evaluating personal classroom demeanor. 2. Demonstrate workplace ethics in the classroom setting based on the rubric written in Benchmark #1. 3. Develop a safety plan for a small business listing common policies, procedures, and regulations regarding workplace safety using information from classroom discussions and internet research.	**LA – Grs. 9/10** R – 1.1 W – 1.1 W – 1.2 W – 1.9 W – 2.1 C – 1.1 C – 1.2 C – 1.3 C – 1.4	 R R R R R R R R R	PS B 1.1 PS B 5.3 FS – 3.1 FS – 6.1 FS – 6.2 FS – 6.3 FS – 7.1 FS – 7.2 FS – 7.3 FS – 8.1 FS – 8.2 FS – 8.3 FS – 9.1 FS – 11.0	R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
3. Basic Aspects of Business Ownership a. Different forms of business ownership b. Advantages and disadvantages of business ownership c. Human Resources Management d. Accounting and finance e. Risk management f. Pricing strategies g. Distribution and inventory	**Concepts** 1. Difference forms of business ownership. 2. Advantages, disadvantages and risks of business ownership. 3. Financial aspects of business ownership. 4. Aspects of human resource management. **Skills** 1. List the different forms of business ownership comparing the advantages and disadvantages of each. 2. Perform accounting procedures for a small business. 3. Calculate the markup and discount prices for merchandise. 4. Compare and contrast modern product distribution systems.	**Concept Benchmarks** 1. Identify the different forms of business ownership on a unit and vocabulary test. 2. Identify the advantages and disadvantages of business ownership on a unit and vocabulary test. 3. Identify the financial aspects of business ownership on a unit and vocabulary test. 4. Write a paper on solutions to scenarios involving workplace personnel issues then give an oral report to the class. **Skill Benchmarks** 1. Develop a list different forms of business ownership and include the advantages and disadvantages of each. 2. Complete small business accounting worksheets. 3. Complete pricing worksheet assignments calculating the mark-up and discount price of merchandise. 4. Analyze modern product distribution systems observed while on various field trips.	**LA – Grs. 9/10** R – 1.1 W – 1.1 W – 1.2 W – 1.4 W – 1.9 W – 2.1 C – 1.1 C – 1.2 C – 1.3 C – 1.4 LS 1.3 LS 1.5 LS 1.8 LS 1.9 LS 2.6 **MA–Gr. 7** NS – 1.2 NS – 1.3 NS – 1.6 NS – 1.7	R R R R R R R R R R R R R R R T T T T	PS B 1.1 PS B 1.2 PS B 1.3 PS B 1.4 PS B 1.5 PS B 1.6 PS B 1.7 FS – 5.1 FS – 5.3 FS – 5.4 FS – 9.1 FS – 9.3 FS – 9.4 FS – 9.5	R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
4. Elements and Purpose of a Business Plan a. Importance of a business plan b. Role of market research c. Financial considerations	**Concepts:** 1. Importance of a business plan. 2. Role of market research in a business plan. 3. Financial considerations of a business plan. **Skills:** 1. Write an effective business plan.	**Concept Benchmarks:** 1. Identify the importance of a business plan on a unit and vocabulary test. 2. Write an essay identifying the role of market research in a business plan. 3. Complete a spreadsheet on financial considerations including payroll and taxes. **Skills Benchmarks:** 1. Develop a business plan according to the outline provided by the instructor.	LA – Grs. 9/10 R – 1.1 W – 1.1 W – 1.2 W – 1.9 W – 2.1 C – 1.1 C – 1.2 C – 1.3 C – 1.4 **MA–Gr. 7** NS – 1.2 NS – 1.3	 R R R R R R R R R T T	PS B 2.1 PS B 2.2 PS B 2.3 PS B 2.4 PS B 2.5 FS – 5.1 FS – 5.3 FS – 5.4 FS – 7.1 FS – 7.2 FS – 7.3 FS – 10.1 FS – 10.2 FS – 10.6 FS – 10.7	R R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
5. Technology in Small Business a. Impact of technology on small business b. Appropriate use of technology in the small business	**Concepts:** 1. Impact of technology on small businesses 2. Use of technology in small businesses **Skills:** 1. Appropriate use of 21st century technology in small businesses.	**Concept Benchmarks:** 1. Write a paper about the impact of technology on a small business using information learned from the guest speaker. 2. Identify the appropriate use of technology in small business on a unit and vocabulary test. **Skill Benchmarks:** 1. Write a paper comparing and contrasting the use of technology, over time, in a local business using information gained by interviewing the owner or employee.	**LA – Grs. 9/10** R – 1.1 W – 1.1 W – 1.2 W – 1.4 W – 1.9 W – 2.3 C – 1.1 C – 1.2 C – 1.3 C – 1.4 **MA–Gr. 7** NS – 1.2 NS – 1.6	 R R R R R R R R R R T T	PS B 3.1 PS B 3.2 PS B 3.3 FS – 4.1 FS – 4.2 FS – 4.3 FS – 4.4 FS – 4.5 FS – 5.1 FS – 5.3 FS – 7.1 FS – 7.2 FS – 7.3 FS – 10.1 FS – 10.2	R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
6. Daily Operation of a Small Business a. Product procurement b. Promotional plan a. Selling techniques	**Concepts:** 1. Process of ordering, receiving, and displaying products for a small business. 2. Components of a product promotional plan. 3. Techniques for selling products. **Skills:** 1. Planning, producing, and displaying business products. 2. Techniques of salesmanship. 3. Making change for business transactions.	**Concept Benchmarks:** 1. Identify the process for ordering, receiving, and displaying products for a small business on a unit and vocabulary test. 2. Identify the components of a good advertising campaign on a unit and vocabulary test. 3. Write a paper on the key aspects of selling merchandise. **Skill Benchmarks:** 1. Design a product promotional plan that includes product packaging, store display, and media advertisement. Make an oral presentation to the class. 2. Role-play selling techniques for selling a product using appropriate customer interactions. 3. Role-play making and counting out correct change for different business transactions.	LA – Grs. 9/10 R – 1.1 W – 1.1 W – 1.2 W – 1.4 W – 1.9 W – 2.1 C – 1.1 C – 1.2 C – 1.3 C – 1.4 LS – 1.3 LS – 1.7 LS – 1.8 LS – 1.9 LS – 2.5	R R R R R R R R R R R R R R R	PS B 4.1 PS B 4.2 PS B 4.3 PS B 4.4 FS – 5.1 FS – 5.3 FS – 7.1 FS – 7.2 FS – 7.3 FS – 10.1 FS – 10.2 FS – 10.3 FS – 10.4 FS – 10.5 FS – 10.6 FS – 10.7	R R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
7. Key Economics Concepts that Affect Small Business Ownership a. Government laws b. Economic principles	**Concepts:** 1. Economic laws and principles affecting small businesses. 2. Laws and principals affecting small businesses as reported in the local media. **Skills:** 1. Present findings from research on economic laws and principles affecting the small business outlined in his/her business plan.	**Concept Benchmarks:** 1. Identify economic laws and economic principles affecting small business on a unit and vocabulary test. 2. Research media and report to the class about various current events affecting small businesses. **Skill Benchmarks:** 1. Research economic laws and principles that govern and guide the business outlined in his/her business plan and write a report discussing the findings.	**LA – Grs. 9/10** R – 1.1 W – 1.3 W – 1.5 W – 1.9 W – 2.3 C – 1.1 C – 1.2 C – 1.3 C – 1.4	 R R R R R R R R R	PS B 5.1 PS B 5.2 PS B 5.3 PS B 5.4 PS B 5.5 PS B 5.6 FS – 5.1 FS – 5.3 FS – 7.1 FS – 7.2 FS – 7.3 FS – 8.1 FS – 8.2 FS – 8.3 FS – 8.4	R R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
8. Career Planning a. Job applications b. Resume c. Cover letter d. Job interviews e. Word processing software	**Concepts:** 1. Important components of applying for a job. **Skills:** 1. Develop a resume and cover letter using proper format. 2. Complete a clear and concise job application. 3. Demonstrate successful interview techniques. 4. Identify the contents and demonstrate organizational techniques when developing a personal portfolio.	**Concept Benchmark:** 1. Identify the components and vocabulary related to the job application process on a unit and vocabulary test. **Skill Benchmarks:** 1. Write a personal resume and cover letter to a potential employer using proper format, heading, and content, as well as correct conventions and proper word choice. 2. Complete a job application for a potential employer with accurate information and correct conventions. 3. Demonstrate effective presentation techniques in a mock interview situation. 4. Create a personal portfolio that may be used during the job search process that includes the appropriate documents and is properly organized.	**LA – Grs. 9/10** R – 1.1 W – 1.1 W – 1.2 W – 1.4 W – 1.9 W – 2.5 C – 1.1 C – 1.2 C – 1.3 C – 1.4 LS – 1.3 LS – 1.6 LS – 1.9 LS – 2.3 **LA – Grs. 11/12** W – 2.5	 R R R R R T R R R R R R R T T	FS – 3.6	R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
9. Supervised Work-Based Learning Experiences a. Students work at a local business learning: 1. Work place expectations 2. Employee / employer relations 3. Employee / customer relations 4. Employee/ Employee relations	**Weeks 1 – 4:** **<u>Work Place Expectations</u>** **Concepts:** 1. Punctuality in the workplace setting 2. Appropriate dress in the workplace setting 3. Professionalism in workplace setting. 4. Proper phone etiquette in the workplace setting. **Skills:** 1. Demonstrate punctuality in the workplace setting. 2. Demonstrate appropriate dress, professionalism, and proper phone etiquette in the work place setting.	**Work Place Expectations Concept Benchmarks:** 1. Identify elements of punctuality on a unit and vocabulary test. 2. Identify elements of appropriate dress during a class discussion. 3. Develop a list of elements pertaining to professionalism on the job site. 4. Demonstrate elements of phone etiquette in a role-play situation. **Skills Benchmarks:** 1. Evaluation of the student's timecard to determine his/ her punctuality at the job site. 2. During the three-week phone conversation with the employer, evaluate the student's dress, professionalism, and phone etiquette.	**LA – Grs. 9/10** R – 1.1 R – 2.3 C – 1.2 C – 1.3 C – 1.4	 R M R R R	PS B 1.1 PS B 1.2 PS B 1.3 PS B 1.4 PS B 1.5 PS B 1.6 PS B 1.7 PS B 2.1 PS B 2.2 PS B 2.3 PS B 2.4 PS B 2.5 PS B 3.1 PS B 3.2 PS B 4.1 PS B 4.2 PS B 4.3 PS B 4.4 FS – 3.7 FS – 5.1 FS – 5.3 FS – 5.4 FS – 6.1 FS – 6.2 FS – 7.1 FS – 7.2 FS – 7.3 FS – 7.4 FS – 9.1 FS – 9.3 FS – 9.4 FS – 9.5	R R R R R R R R R R R R R R R R R R R R R R R R R R R R R R R R		

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
	Weeks 5 – 8: **<u>Employee /Employer Relations</u>** **Concepts**: 1. Following directions in the workplace setting. 2. Properly taking criticism in the workplace setting. 3. Showing initiative in the workplace setting. 4. Demonstrating responsibility in the workplace setting. **Skill:** 1. Demonstrate the skills of: (1) following directions; (2) taking criticism properly; (3) showing initiative; and (4) demonstrating responsibility in the workplace setting.	**<u>Employee /Employer Relations</u>** **Concept Benchmarks:** 1. Identify elements of following directions by taking part in a class discussion. 2. Identify proper of taking criticism properly in role-play situations. 3. Develop a list of behaviors that demonstrate taking initiative in a class discussion. 4. Develop a list of behaviors that demonstrate taking responsibility in a class discussion. **Skill Benchmark:** 1. During the six-week phone conversation with the employer, evaluate the student's skills of following directions, taking criticism properly, showing initiative, and demonstrating responsibility						

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
	Weeks 9-12: **<u>Employee /Employer Relations</u>** **Concepts**: 1. Positive attitude in the workplace setting. 2. Clear communication in the workplace setting. 3. Appropriate body language in the workplace setting. 4. Adequate product knowledge, if applicable, in the workplace setting. **Skills:** 1. Demonstrate the skills of: (1) positive attitude; (2) clear communication; and (3) appropriate body language in the workplace setting. 2. Demonstrate adequate product knowledge, if applicable. 3. Demonstrate the following skills as they relate to a positive experience in a workplace setting: a. Punctuality b. Appropriate Dress c. Professionalism d. Phone Etiquette e. Following Directions f. Taking Criticism g. Showing Initiative h. Taking Responsibility i. Positive Attitude j. Clear Communication k. Appropriate Body Language l. Product Knowledge	**<u>Employee /Employer Relations</u>** **Concept Benchmarks:** 1. Demonstrate a positive attitude during role-play situations. 2. Demonstrate clear communication techniques during role-play situations. 3. Demonstrate appropriate body language when dealing with people in video-taped role-play situations. 4. Demonstrate adequate product knowledge by making an oral presentation to the class. **Skill Benchmarks:** 1. During the nine-week phone conversation with the employer, evaluate the student's skills of positive attitude, clear communication, and appropriate body language. 2. During a visit to the worksite, observe the student's knowledge of the products. 3. During the nine-twelve week onsite evaluation, complete the student's evaluation on: a. Punctuality b. Appropriate Dress c. Professionalism d. Phone Etiquette e. Following Directions f. Taking Criticism g. Showing Initiative h. Taking Responsibility i. Positive Attitude j. Clear Communication k. Appropriate Body Language l. Product Knowledge						

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
	Weeks 13-16: **<u>Employee /Employer Relations</u>** **Concepts**: 1. Handling difficult co-workers in the workplace setting. 2. Giving and taking suggestions in the workplace setting. 3. Picking up the slack in a workplace setting. 4. "Sucking-it-up" in a workplace setting. **Skill:** 1. Demonstrate the skills of handling difficult co-workers, giving and taking suggestions, picking up the slack, and "sucking-it-up" in the work place setting.	**<u>Employee /Employer Relations</u>** **Concept Benchmarks:** 1. Demonstrate positive techniques in handling difficult co-workers in role-play situations. 2. Develop a list of techniques for giving and taking suggestions through a class discussion. 3. Discuss appropriate techniques for picking up the slack in a business setting. 4. Discuss the concept of "Sucking-it-up" meaning the student completes jobs assigned in the workplace setting even though he/she feels it is unfair that he/she has to do the task. **Skill Benchmark:** 1. During the twelve-week phone conversation with the employer, evaluate the student's skills on handling difficult co-workers, giving and taking suggestions, picking up the slack, and "sucking-it-up" at the worksite.						

Instruction Unit / Sub-units	Concepts/Skills	Benchmarks	Model Curriculum Standards Mentioned = M, Reinforced = R Taught = T					
			Academic Content		Career Tech P = Pathway F = Foundation		Other Standards (e.g. Industry, SLO, CSTP)	
	Weeks 17-18: **<u>Student Evaluation</u>** **Concept**: 1. Positive workplace demeanor while at the job site. **Skill:** 1. Demonstrate the following skills as they relate to a positive demeanor in a workplace setting: a. Punctuality b. Appropriate Dress c. Professionalism d. Phone Etiquette e. Following Directions f. Taking Criticism g. Showing Initiative h. Taking Responsibility i. Positive Attitude j. Clear Communication k. Appropriate Body Language l. Product Knowledge m. Handling Difficult Co-workers n. Giving and Taking Suggestions o. Taking up the Slack	**<u>Student Evaluation</u>** **Concept Benchmarks:** 1. Identify the elements of a positive demeanor at the job site by taking a unit and vocabulary test. **Skill Benchmark:** 1. During the seventeen-eighteen week onsite evaluation, complete the student's evaluation on: a. Punctuality b. Appropriate Dress c. Professionalism d. Phone Etiquette e. Following Directions f. Taking Criticism g. Showing Initiative h. Taking Responsibility i. Positive Attitude j. Clear Communication k. Appropriate Body Language l. Product Knowledge m. Handling Difficult Co-workers n. Giving and Taking Suggestions o. Taking up the Slack						

Appendix

A

Sample Documents Supporting the Eleven Elements of a High-Quality CTE System

CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

Use With High-Quality Element One:

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: • CTE career opportunities. • CTE and academic courses necessary to complete career pathway offerings. • Post-secondary education and training options
		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 15th.
		4.C	Leadership activities are embedded in the CTE curriculum.

Back to: 3 16 18 36

		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 *Program of Study Course Sequencing Form,* 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 *Program of Study Course Sequencing Form,* 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.

Back to: 43 53 58

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 February15th. 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)
			• All CTE courses are properly identified in Data System (including new courses)
			• Enrollment figures and reports are reviewed by:
			  • Site Staff and district CTE staff.
			  • Site and district advisory committees
			• Completed and submitted by **October 15 to CDE**

		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: • Student placement status in post-secondary education or advanced training, in military service, or in employment. • Opinion regarding the value and relevance of the CTE program. • Suggestions for improving the CTE program.
		10.E	Graduate Follow Up/Placement Report (CDE 101-E2) The Graduate Follow Up data is collected and presented to the CDE **by March 10.**
		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.

Back to: 61 66 67 73 76

Back to: 17 19

Use With High-Quality Element One

FISCAL PLAN NEEDS ASSESSMENT

Standard	Not Implemented	Partially Implemented	Fully Implemented
1. The district has fiscal policies and a fiscal resource allocation plan that is aligned with measurable student achievement outcomes and instructional goals, including, but not limited to, the Essential Program Components.	☐ Very little work has been done on creating either a plan or budget; or a plan exists, but it is not used to guide any actions.	☐ Plan exists, but not consistently followed; at the district there is knowledge of the plan, but at sites there is limited to no knowledge.	☐ District has strategic plan that is being followed with clearly articulated goals and actions that focus on academic achievement.
	☐ Budgets and plans exist and throughout the year adjustments are made to the budget without any consideration of plans.	☐ Reference to goals in budget, but throughout the year transfers are made without consideration of impact on goal achievement.	☐ There is a clear connection between the district budget and the strategic plan; evidence of alignment between resources and strategic needs.
	☐ No plan exists, or if a plan does exist it is piecemeal.	☐ Plan exists, but is not well understood or integrated into day-to-day actions.	☐ District staff and board understand plan and budget (budget information should clearly show connection to strategic plan).
	☐ No policies exist; carryover balances in Title I, EIA, and SIP exceed 10% of award and/or over 80% of funding for these programs is allocated to positions.	☐ Some policies exist, but are not complete or consistently followed; transfers between funds are routine ; carryover balances in Title I, EIA, and SIP exceed 10% of award and/or over 80% of funding for these programs is allocated to positions.	☐ Policies exist and are followed that support sound management (e.g. carryover, policy, allocation limits to positions, etc.); no more than 10% unplanned carryover in Title I, EIA, and SIP and less than 80% of funding for these programs is allocated to positions.
	☐ No regular communication between budget and program staff exists unless major problems occur.	☐ Budget and program staff communicate to create initial plan/budget, and when crises emerge, but no ongoing process is in place.	☐ Strong and regular communication exists between budget and program staff.

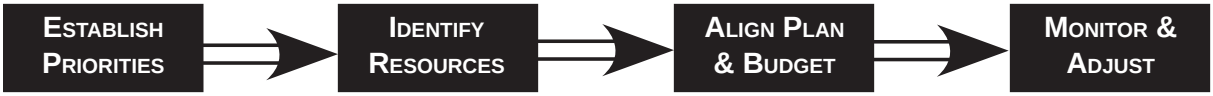
Standard	Not Implemented	Partially Implemented	Fully Implemented
2. The district and school plans align categorical expenditures with achievement and instructional goals.	☐ Few resources are included in the plan (only includes Title I, EIA, and SIP).	☐ Most major resources are included in plan (most Federal funds, EIA, SLIBG, HP).	☐ All resources are included in plan (See Form C attached, all Federal Funds, EIA, SLIBG, Hourly Programs, ELAP, HP, etc.).
	☐ Incomplete, mostly guesswork, budget and plan.	☐ Updates to budget and plan may occur occasionally.	☐ Ability to update budget/plan as changes emerge.
	☐ District budget and program staff are not involved in reviewing plans and budgets.	☐ Compliance is important; consideration drives efforts, but it is not consistent.	☐ Transparent connection between budget and plan.
	☐ Categorical program compliance is "someone's" job, and others respond to requests.	☐ District budget and program staff may review some budgets and plans, but this is not routine.	☐ District budget and program staff are involved in reviewing plans and budgets.
	☐ Site councils are unaware of the expected roles and responsibilities.	☐ Categorical program compliance is the primary focus for managing resources.	☐ Categorical program compliance is important but doesn't exclusively determine how funds or program will operate.
	☐ Few resources are included in the plan (only includes Title I, EIA, and SIP).	☐ Site councils are aware of their roles and responsibilities, but are not supportive or following through.	☐ Site councils understand their roles and responsibilities and are supportive.
3. The Local Educational Agency (LEA) Plan details fiscal plans and expenditures as tied to achievement goals and priorities.	☐ Plan documents are not followed.	☐ District LEA and single plan exist but are separate.	☐ District LEA plan is the guiding document for SPSA.
	☐ If budgets are present, they are guesses.	☐ Data is reviewed but not always used to inform plan.	☐ District and schools use data to establish goals and revise plan regularly.
	☐ School plans and budgets do not identify how student achievement objectives are met; plans and budgets are not updated.	☐ Though student achievement objectives are identified, plan and budget is not regularly updated.	☐ School plans and budgets clearly demonstrate how student achievement objectives are met and are regularly updated.
	☐ Plan documents are not followed.	☐ District LEA and single plan exist but are separate.	☐ District LEA plan is the guiding document for SPSA.

Totals	Not Implemented	Partially Implemented	Fully Implemented
Number of items checked in each column			

Use With High-Quality Element One

Budget Planning Road Map

This checklist is designed to provide an easy to follow road map to guide implementation of EPC 9.



	Establish Priorities	Identify Resources	Align Plan & Budget	Monitor & Adjust
ACTIONS	1. Review or develop strategic plan/ focus – What: • needs, problems, challenges exist? • needs to be accomplished? • does success look like? • has been started that should be finished? 2. Determine "what" possible actions need to be taken to address district/site goals – should be: • Specific • Action-oriented • Realistic • Thoughtful • Understandable • Assignable 3. Prioritize ideas based on consideration of: • Importance • Urgency • Ease of Doing 4. Consult and review actions and priorities with stakeholders.	5. Review prior and current year budgets and look for patterns in expenditures, revenues, and carryover. • District-level: Review summary of categorical budget information (e.g., CAT-Form, Consolidated Application Part II, equivalent document) for prior and current year. • Site-level: Review site-level budget for prior and current year and look for patterns in expenditures, revenues, and carryover. 6. Review budgets and consider how resources have been used and evaluate whether they should be continued. • Are the uses appropriate, effective, needed? 7. Get basic information about programs in the budget by looking up programs in CATWizard or asking staff about how programs are used.	8. Create a listing of all carryover resources (one-time $). 9. Create a listing of all unallocated ongoing resources. 10. Create a listing of existing items in the budget that will be phased out or changed. 11. Organize expenditure items by type (e.g., staff, learning time, professional development, etc.). 12. Organize items to be funded based on priority ranking. 13. Allocate funds based on priority ranking: • Most restricted to least restricted dollar (for instance, English Learner only funding to EL needs before using Title I or EIA-SCE)	14. Develop plan template that includes "real "budget (i.e., the budget in the plan is the budget for the site/district). 15. Review plan and budget at least quarterly to ensure alignment between plan and resources. 16. Regularly review data to ensure that actions are appropriate. 17. Adjust as necessary; ensure that program and budget office are aware of changes

Foundation and Structures – To Facilitate the Process

Communicate and Inform a. Transparent budget b. Process to regularly review and discuss c. Shared responsibility for budget and plans	**Useful Policies:** d. Carryover limits e. Percent allocated to positions f. Review of budget g. Budget worksheets in plans	**Useful Procedures:** h. Single Plan and LEA Plan development cycle that ties to budget

Back to: 17 19

Use With High-Quality Element One

BUDGET PLANNING MATRIX - USES AND FUNDING OPTIONS

X = Allowable Use * = Possible Use	Title 1, A (3010)	EIA-SCE (7090)	EIA-LEP (7091)	Title III (4203)	ELAP (6286)	Migrant Ed. (3060)	Reading First (3030)	Title II A (4035)	Title II D (4045)	Professional Dev. BG (7393)	School/Library BG (7395)	TII BG (7394)	School Safety BG (7391)	Pupil Retention BG (7390)	Hourly Programs (0000)	Instructional Materials Fund (7156)	EL Instructional Materials (7157)	CAHSEE Supplemental Mat. (7056)	CAHSEE Support Grants (7055)	Teacher Support Grants (6275)	Discretionary BG (7396.7397)	Arts and Music BG (6760)	Arts, Music, P.E. Grant (6761)	High Priority Schools BG	SAIT (7256)	OEIA (7400)	**Other**
People																											
Admin./Coord./Dir.	X	X	X	X		X		X											X					X	X	X	
Teacher (Supl. Support)	X	X	X	X	X	X	X	X			X	X			X				X					X	X	X	
Academic Coach Mentor	X	X	X	X	X	X	X	X			X	X								X				X	X	X	
Physical Ed. Teacher											X																Physical Ed Teacher Grants (6258)
Art or Music Teacher											X											X					Parent Teacher Assoc./Organiz. Or dist. gen. fund
Instr. Aide(IA)-classroom	X	X	X	X	X		X				X	X							X					X	X	X	
IA-lunch or other aux duty											X		*														
Safety Officer											X	*	X							*				*		*	Title IV (3710), School Safety Block Grant (6405)
Counselor	X	X	X	X	X						X	X	*	X										X	X	X	Secondary Counselor Grant (7080)
Nurse											X	*															Medi-Cal Reimb. (5640), MAA (0000, or district general fund
Hiring Incentives								X		*	X	X												X	X	X	"*"As part of Teaching as a Priority, Decile 1-5 schools only
Staff Development																											
Release time/Subs	X	X	X	*			X	*			X	X							X		X			X	X	X	SB 472 (7294)
Stipends, Extra Duty Pay	X	X	X	X	X		X	X	X	X	X	X							X		X	X		X	X	X	SB 472 (7294)
Trainer/Training Fees	X	X	X	X	X		X	X	X	X	X	X							X		X	X		X	X	X	SB 472 (7294)
Collaboration Time	X	X	X				X			*	X	*								X	X			X	X	X	
Coaching/Mentoring	X	X	X	X			X	X			X	X								X	X			X	X	X	
Extra Learning Time																											
Extended Day	X	X	X	X	X	X					X	X			X						X			X	X	X	
Extended Year	X	X	X	X	X	X					X	X			X						X			X	X	X	
After/Before School	X	X	X	X	X	X					X	X			X						X			X	X	X	After school Ed & Safety (6010), 21st Century (4124)
Saturday School	X	X	X	X	X	X					X	X			X						X			X	X	X	
Summer/Intersession	X	X	X	X	X	X					X	X			X						X			X	X	X	

X = Allowable Use * = Possible Use	Title 1, A (3010)	EIA-SCE (7090)	EIA-LEP (7091)	Title III (4203)	ELAP (6286)	Migrant Ed. (3060)	Reading First (3030)	Title II A (4035)	Title II D (4045)	Professional Dev. BG (7393)	School/Library BG (7395)	TII BG (7394)	School Safety BG (7391)	Pupil Retention BG (7390)	Hourly Programs (0000)	Instructional Materials Fund (7156)	EL Instructional Materials (7157)	CAHSEE Supplemental Mat. (7056)	CAHSEE Support Grants (7055)	Teacher Support Grants (6275)	Discretionary BG (7396.7397)	Arts and Music BG (6760)	Arts, Music, P.E. Grant (6761)	High Priority Schools BG	SAIT (7256)	OEIA (7400)	Other
Instructional Materials																											
Core												*				X								*	*	*	Lottery, Prop. 20(6300), Instr. Mat. & Ed Tech (7398)
Supplemental General	X	X									X	X			X	X					X			X	X	X	Lottery, Prop. 20(6300), Instr. Mat. & Ed Tech (7398)
Supplemental-Eng. Learn.	X	X	X	X	X						X	X			X	X	X				X			X	X	X	Lottery, Prop. 20(6300), Instr. Mat. & Ed Tech(7398)
Supplemental-CAHSEE	X	X	*	*							X	X			X	X		X	X		X			X	X	X	Lottery, Prop. 20(6300), Instr. Mat. & Ed Tech(7398)
Classroom/School Library	X	X									X	X									X			X	X	X	Lottery, Prop. 20(6300), Instr. Mat. & Ed Tech(7398)
Instr. Supplies, general	*	*									X	*			X												
Instr. Supplies, Art & Music											X	*										X	X				
Instr. Supplies, PE											X	*											X				
Technology																											
Hardware/Software for Classroom	X	X	X	*	X		*		X		X	X									X			X	X	X	Microsoft Vouchers (9010)
Hardware/Software for District Mgt.	*	*					*														X						Microsoft Voucher (9010); "*" may be used for data analysis support
Training	X	X	X					X	X	X		*									X	X		X	X	X	
Library/Media Support									X		X	*															Title V ()commonly used (4110)
Other																											
Maintenance																					X						Routine Restricted Maintenance (8100/8150), Deferred Maintenance (6205)
Facilities-Lease, Purchase, Modernization																										*	"*" Applies to year 1 districtwide for eligible schools and each year thereafter if incorporated into plan

i Staff Development Block Grant includes Staff Development Buy-Back Days, Teaching as a Priority, Intersegmental Programs
ii School and Library Improvement Block Grant includes School Improvement Program, and School and Classroom Library Improvement Program
iii Targeted instructional Improvement Block Grant includes Targeted Instructional Improvement Grant Program and Supplemental Grants
iv School Safety Block Grant includes TK
v Pupil Retention Block Grant includes 10th Grade Counseling, Drop-Out Prevention, and Opportunity Schools
vi Teacher and Student Support Grants are provided to Decile 1-3 schools and may be used for a variety of purposes to improve the quality and safety of recipient schools

Use With High-Quality Element One and Five

Employer Advisory Board Guidelines

Career-technical education is an important component of a student's total education, providing a dynamic school-to-career delivery system for high school students and adults in California. A key to the success of these programs is the cooperation that has been given by the business and industrial community.

Today, more than ever, it is critical that Employer Advisory Board members be involved in planning programs and evaluating the successes of our efforts. Board members assist us in maintaining relevant, up-to-date training programs.

An Employer Advisory Board Is Needed:

- To assist in curriculum review, verification of labor market needs and placement.
- To acquire information that will help design, update, modify, expand, and improve the quality of the courses.
- To obtain added support and strengthen the relationship between business, industry, community, and education.
- To meet accountability requirements set by the California State Department of Education.

An Employer Advisory Board's Functions And Responsibilities Include:

- Verifying job market needs of a local or regional labor market.
- Advising in matters related to program activities, course content, and course competencies.
- Advising on instructional facilities and equipment.
- Assisting in long-range program planning.
- Acting as a liaison between the community and CTE programs.
- Serving as resource persons and help identify community resources.
- Recommending competent personnel with appropriate experience as potential instructors.
- Assisting to promote the occupational program.
- Maintaining an active role in assisting with placement of students.

Employer Advisory Board Documents Enclosed in this Packet

- *Employer Advisory Board Composition*
- *Employer Advisory Board Responsibilities and Duties*
- *Chairing the Employer Advisory Board Meeting*
- *Sample Meeting Agenda Format*
- *Expanded Board Agenda and Suggestions for Meeting Minutes*
- *Employer Advisory Board Sign-in Sheet*
- *Master List of Employer Advisory Board Members*
- *Academic Skills Survey*
- *Labor Market Survey*
- Instructor's Self-Check Questionnaire

Back to: 17 19 42 43 60

Employer Advisory Board (EAB) Composition

Membership

Advisory boards should have sufficient membership to be a representative of the occupation(s) taught. A board of five to seven members is considered to be small enough to permit active participation and yet large enough to be able to offer broad points of view. Title 5, 11504(i)(1) indicates: "The majority of the Employer Advisory Board membership shall represent the occupation for which instruction is given." This is the only legal reference to the size of advisory boards. When advisory board members are selected, the following criteria should be considered:

	Criteria
1	Knowledge of community and vocation
2	Appropriate experience in target industry
3	Adequate time for preparation
4	Civic-mindedness
5	Interest and dependability
6	Enthusiasm for the program
7	Ability to communicate
8	Interest in youth and adult occupational training
9	Representative of the ethnic makeup of the community

Frequency of Meetings

As a general rule, advisory board meetings are held at least once a year with additional large-group meetings and committee meetings scheduled as indicated for specific program and/or industry needs. (Course development and creating curriculum.

Employer Advisory Boards Responsibilities and Duties

All Advisory Board Members:

1. Assist in curriculum review, verification of labor market needs, and placement of students.
2. Offer information that will help design, update, modify, expand, and improve the quality of career technical education courses.
3. Give added support and strength to the relationship between business, industry, community, and education.
4. Identify competent personnel with appropriate experience as potential instructors.
5. Assist in the promotion of the occupational program.
6. Meet the accountability requirements set by the California Department of Education.

The Chairperson

(May be an advisory board member, course instructor, or school administrator)

1. Notifies the proper authorities concerning the date, time, and place of the next advisory board meeting.
2. Prepares the meeting agenda in cooperation with CTE instructional staff.
3. Sends notices of meetings and copies of the minutes to all board members.
4. Presides at the board meeting.
5. Submits all post-meeting documents, including meeting minutes, to the appropriate personnel.
6. Follows-up on advisory board recommendations and reports to the membership.

Recorder

1. Keeps the attendance record and records the proceedings of the board meeting.
2. Sends the meeting minutes to the chairperson.

Instructional Staff

1. Invites community members to serve on the advisory board.
2. Submits name, name of business, title, and address of new board members to the chairperson.
3. Serves as a general consultant to the advisory board.
4. May serve as the recorder or the chairperson.
5. May be asked to make provisions for the meeting including meeting room, pencils, paper, and refreshments.
6. Provides board members with information concerning the program.
7. Seeks advice from the board while refraining from giving advice.

Chairing The Employer Advisory Board (EAB) Meeting

No Later than two Months Prior to the Meeting

1. Determine the date and time of the next advisory board meeting.
2. Reserve a room for the meeting.
3. Select new advisory board members, if needed.
4. Finalize the list of advisory board members including each person's name, title, name of business, address, and e-mail address. (See sample EAB Master List form on page 77.)
5. Give the list of advisory board members to the CTE administrator.

No Later than one Month Prior to the Meeting

1. Send an invitation to the upcoming advisory board meeting to each board member.
2. Send a copy of the meeting invitation to the appropriate CTE administrator.

Two Weeks Prior to the Meeting

1. Mail packets to advisory board members that include: (1) invitation to the meeting; (2) meeting agenda; (3) minutes of last meeting; (4) academic skills survey (see pg. 77); (5) labor market survey (see pg. 78); and (6) current or revised course outline, if appropriate.
2. Remind EAB members of the upcoming advisory board meeting with a phone call, e-mail, or postcard.

One Week Prior to the Meeting

1. Check on room reservations for the meeting.
2. Prepare the packet for the chairperson including all items sent to the board members plus a meeting sign-in sheet.
3. Reserve any technology required for presentations, conference calling, demonstrations, etc.
4. Plan the refreshments for the meeting and person who is responsible for securing and setting up the refreshments.
5. Make name tags for each board member.

Day of the Meeting

1. Arrive 1/2 hour early.
2. Set up needed technology.
3. Set up the room with name tags for each board member and meeting agendas.
4. Welcome board members as they arrive.
5. Facilitate the meeting so discussion moves along and follows the agenda.
6. Have the recorder take the minutes of the meeting.

Following the Meeting

1. Write the minutes of the meeting. Make sure a motion to approve the course curriculum and to continue the operation of the program is included. The motion and second must be made by employer committee members.
2. Send a thank you letter and a copy of the meeting minutes to each advisory board member.
3. Submit the following to the appropriate CTE person:
    - Meeting agenda
    - Meeting minutes
    - Sign-in sheet
    - Revisions to the course outline and/or labor market report (if appropriate)
    - Textbook review (if appropriate)
    - Master list of advisory board members

Sample Meeting Agenda Format

(Name of Class)
(Date)
Meeting Agenda

1. Introduction of members and guests
2. Meeting called to order and board reviewed the purpose statement for the meeting
3. Review/approval of minutes (formal motion and second to approve the minutes made by community advisors)
4. Review of relevant data (E.C. 52302.3(3))
    - Enrollment
    - Number of completers and graduates
    - Other
5. Review of course sequence (E.C. 52302.2(3))
    - The career pathway course sequence
    - Articulation/UC a-g approval
6. Review of curriculum
    - Previous year's recommendations
    - Course description, course outline, and hours of instruction
    - Alignment to model CTE standards (career pathway, foundation, and academic)
    - Training plans for community classroom each courser should be represented separately.
7. Related Labor Market Analysis (E.C. 52302.3(1)) & (E.C. 52302.2(3))
    - Job titles
    - Confirm high wage/significant wage increases opportunities (E.C. 52302.3(1)) & (E.C. 52302.2(3))
    - Validate need for training in area/non-duplication (E.C. 52302.3(2))
8. Review industry certification (if appropriate)
9. Review required skills for certificates of competency (E.C. 52302.2(1))
10. Review assessment procedures (E.C. 52302.2(1))
11 Annual review of students who met established skill certificate criteria. (E.C. 52302.2(2))
12. Internship/employment opportunities (discussion) (E.C. 52302.2(4))
13. Postsecondary scholarship creation (discussion) (E.C. 52302.2(5))
14. Review of textbooks and instructional materials (optional)
15. Review of equipment needs (optional)
16. Suggestions and recommendations (open discussion)
17. Set date and time for next meeting (optional)
18. Motion to approve course curriculum and to continue operation of the program (formal motion and second made by community advisors)
19. Thank you and adjournment
20. Tour of facility (optional)

Expanded Board Agenda and Suggestions for Meeting Minutes

1. Introduction of Members and Guests

The minutes include a listing, complete with full name, title, and name of business, of each advisory board member participating in the meeting. Employer Advisory Board (EAB) minutes reflect that a majority of the members in attendance represent the career-technical area for which instruction is given. Attendees other than those listed as advisory members are not considered as part of the voting membership of the board. (List who are the voting members.)

2. Meeting Called to Order and Statement of the Purpose for Meeting

The main function of the Employer Advisory Board is to provide up-to-date information on current trends and technologies and to make recommendations for the development and improvement of the program. An advisory board member speaks on behalf of employers from a specific career-technical area.

Note: *The purpose and goals of the meeting should be included on the meeting agenda, should be stated at the opening of a meeting, and restated in the minutes.*

3. Review/Approval of Minutes

The minutes are read aloud and discussed. Corrections to the minutes are discussed and noted by the recorder. A formal motion is made and seconded to approve the minutes as read or corrected.

Example: A motion to approve the minutes of the last meeting was made by Carla Ames, store owner, seconded by Cathy Boetcher, program director, and passed by the advisory board.

4. Review of Relevant Data

Enrollment: Instructor provides the student enrollment information for his/her course. This information is reflected in the minutes.

Number of Completers and Graduates: Instructor provides the following information about students in his/her course:

1. Number of students who completed the course last year.
2. Number of students who completed the career pathway course sequence.
3. Number of students from his/her course who graduated, obtained employment in a related career, and who enrolled in postsecondary education.

This information is recorded in the minutes.

Other: Any other relevant data.

5. Review of Course Sequence

Review the sequence of courses offered in the Career Pathway, noting that the purpose of the course sequence is to prepare students to continue career preparation in post-secondary education programs; to successfully achieve industry certification or licensure; and/or to enter high demand skill, high demand, and/or high wage jobs. Summarize the discussion in the minutes.
Articulation/UC Approved: If the career technical program is articulated with a community college or approved for UC a-g credit, it should be discussed and noted in the minutes.

6. Review of Curriculum

Previous Year's Recommendations: Specific recommendations made at a previous meeting are identified and the status or action taken is noted.

Course Descriptions, Course Outlines, and Hours of Instruction: The current course sequence, course descriptions, course outlines, and hours of instruction should be reviewed. Updated information contributed by advisory members should be noted in the minutes. The minutes also reflect that course materials, including a copy of the current course outline, were made available to advisory board members.

Alignment to Model CTE Standards: Each instructor provides an overview of the CTE standards aligned to his/her course including Career Pathway, Foundation, and Academic Content Standards. This discussion is recorded in the minutes.

Training Plans for Community Classroom: The instructor provides an overview and example of the joint venture community classroom training agreements and training plans or other industry-education memorandums of understand (MOU). This plan or MOU includes the responsibilities of the student, business, instructor, and parent/guardian where appropriate. The minutes reflect this discussion.

7. Related Labor Market Analysis

Job Titles. EAB members review the job titles listed in the curriculum and make recommendations for additions or deletions. Revisions are noted in the minutes.

Confirm High Wage/Significant Wage Increases Opportunities: A review of the current local and state labor market information is provided. Current salary ranges for the occupations or career clusters aligned with the program should be supplied along with the labor market data. Instructors may wish to use the enclosed Labor Market Survey form to gather information from EAB members. This up-to-date information is reflected in the minutes, or as an attachment.

Validate Need for Training in Area/Non-duplication: Confirm that these courses do not unnecessarily duplicate other occupational skill development training programs at the site. The key is to eliminate, if possible, duplication of courses.

8. *Review Industry Certification (If appropriate)*

Advisory members review any new industry certifications or requirements in the field. This discussion is recorded in the minutes.

9. Review Required Skills for Certification of Competency

Advisory members review the list of course competencies, checking for relevancy and appropriateness. The minutes show that the course competencies have been approved as written or revised.

10. Review Assessment Procedures

The instructors discuss the assessment procedures used to evaluate whether pupils actually acquire the skills and knowledge (competencies) expected. The minutes summarize the discussion stating that the EAB approved the assessment procedures as presented/revised.

11. Annual Review of Students who met Established Skill Certificate Criteria

The instructors provide data showing the number of students, from the previous year's course, who successfully completed the required competencies and possess the skills needed for success in that industry sector. The minutes reflect the discussion on this topic.

12. Internship/Employment Opportunities

The board members discuss possible internships, paid summer employment, and post graduation employment possibilities. The minutes reflect the input from EAB members.

13. Postsecondary Scholarship Creation

The board members discuss the available postsecondary scholarship opportunities for students participating in course sequences and discuss the possible need for creating, seeking out, and/or soliciting new/additional scholarship funds. This should be a collaborative effort between CTE instructors, school administration, board members, and postsecondary institutions. The minutes reflect this discussion.

14. Review of Textbooks and Instructional Materials

Advisory board members may review and provide input about instructional materials including, but not limited to, texts, videos, and software. Details of this input, or review, should be noted in the minutes with the specific titles of the materials reviewed.

15. Review of Equipment Needs

Board members may make specific recommendations about the equipment needs of the program. The minutes reflect the details of equipment recommendations and any suggestions for acquisition of needed equipment.

16. Suggestions and Recommendations

The minutes contain a summary of pertinent comments or recommendations contributed during the meeting. General comments are placed under this agenda category. Specific suggestions/ recommendations need to be placed under the proper heading (e.g., suggestions/ recommendations about the course outline are placed under topic #6, Review of Curriculum.)

17. Set Date and Time for Next Meeting (optional)

Set the date, time, and location for the next meeting, listing the information prominently at the end of the minutes.

18. Motion to Approve Course Curriculum and Continue Operation of the Program

The minutes document the approval of the course curriculum and approval by the board to continue to operate the program. The minutes show that the motion and second was made by EAB members and documents clearly whether the motion was carried or not. Note: CTE instructors, administrators, or staff present are not included in this vote.

Example: *The motion to continue the Computer Business Applications program was made by (name), City Human Resources Director, and seconded by (name), Manpower. All ten business advisory members present voted in favor of the motion.*

19. Thank You and Adjournment

List time of adjournment.

Example: *The meeting was adjourned at 6:00 p.m. with appreciation expressed to the advisory members for their willingness to serve in this capacity and provide much-needed direction and support for the program.*

20. Name of Person Taking/Preparing the Minutes

Employer Advisory Board

Sign-In Sheet

COURSE/PROGRAM _____ **DATE:** _____

Instructor: _____

Name	Title	Organization	Phone No.	E-Mail

Master List of Employer Advisory Board Members

Course/Program ______________________________ **Instructor:** ____________________

Name:	Title:
Company:	Address:
Phone:	E-mail:

Name:	Title:
Company:	Address:
Phone:	E-mail:

Name:	Title:
Company:	Address:
Phone:	E-mail:

Name:	Title:
Company:	Address:
Phone:	E-mail:

Name:	Title:
Company:	Address:
Phone:	E-mail:

Name:	Title:
Company:	Address:
Phone:	E-mail:

Example Academic Skills Survey

Business Name:	**Type of business:**
Person completing survey:	**Position/title:**

In your profession, how often does an entry-level employee need to demonstrate the following academic proficiencies?	**Frequently**	**Sometimes**	**Never**
Reading			
• Read and follow sophisticated directions (e.g., technical/help manuals).			
• Understand and use industry-specific terminology.			
• Use medical or scientific terminology.			
• Analyze, evaluate, and apply information from workplace documents.			
• Read and clarify facts in public/workplace documents (e.g., policies).			
• Conduct information searches using the internet.			
What types of materials would they read?			

Writing			
• Write business letters or memos.			
• Prepare analytical or research reports.			
• Organize and record information.			
• Integrate databases, graphics, and/or spreadsheets into word processing.			
• Prepare PowerPoint presentations.			
What types of written materials would they produce?			

Written and Oral English Language			
• Produce legible work with accurate spelling, correct punctuation, and proper capitalization.			
• Produce work according to specific manuscript requirements.			
What types of writing skills would be required?			

Listening and Speaking			
• Actively participate in discussions and formulate opinions based on convincing evidence.			
• Apply interviewing techniques to interview applicants, clients, etc.			
How might they participate in meetings/discussions?			

Oral Communication			
• Deliver focused and coherent informative or persuasive presentations.			
• Use props, visual aids, graphics, and/or multi-media to enhance presentations.			
What types of presentations might they give?			

Mathematics			
• Compute using whole numbers, decimals and/or fractions.			
• Use formulas.			
What types of math problems would they be asked to complete?			

Thank you for your time. Please bring completed form to the advisory board meeting.

Example Labor Market Survey

Your response to the following survey will assist us in providing accurate labor information to prospective students. Specific occupational area: _____

	Topic	Increasing	Decreasing	Remaining steady
1.	Do you see the local labor market need for workers in this field as:			
2.	If you have knowledge of the state labor market in this field, it is:			

3. In what specific areas, if any, is there new job growth?

_____

_____

4. What new skills are required of entry-level employees?

_____

_____

5. What skills are recommended for workers in the field who wish to advance?

_____

_____

6. List any industry certifications you consider desirable for a prospective employee to have.

_____

7. What new technologies are emerging in this field?

_____

_____

8. What are the top three factors/characteristics you consider in hiring a new employee?

_____

_____

9. What are the major deficits you see in new/prospective employees that we could address in our classes?

_____

_____

10. What is a typical/average starting salary for an entry-level position? _____

11. What major trends/changes do you see in this field?

_____

_____

12. How many people does your company employ? _____

Thank you for your time. Please bring completed form to the advisory board meeting.

Example Instructor's Self-Check Questionnaire

Questions to ask yourself during and after your advisory board meeting.

Self-Check Question	Yes	No	Need to Check
Do you feel that services of the Employer Advisory Board are benefiting your program?			
Have Advisory Board activities for your program developed community understanding and support?			
Do Advisory Board members understand what is expected of them?			
Do board members possess adequate knowledge of the philosophy and objectives of your program?			
Are EAB members provided information on new developments in career technical education that affect your program?			
Have board members received sufficient orientation to your program to function effectively?			
Is the board given sufficient information and an opportunity to study and discuss the issues before making recommendations?			
Does board membership and representation reflect varying or opposing viewpoints which should be taken into consideration?			
Are board members invited to attend other CTE functions?			
Are board meetings conducted in an impartial manner that allows all members to express opinions and give information?			
Is the importance of board members' time recognized through keeping meetings on schedule and directed to the agenda?			
Are board members presented the facts and consulted when changes are made in your program?			
Do board members receive adequate advance notice of meetings and prompt reports of minutes?			
Are board members involved based on their expertise?			
Are board members given recognition for contributions in publications, news releases, or by other methods?			
Are thank you letters, certificates, or other methods used to express appreciations for services?			
Is there a reflection of positive support from administrators and instructors regarding the contributions Advisory Board members make to programs?			
Has the Advisory Board been appointed simply to meet the requirements of legislation?			

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.

1.0	**Academics**	• Students understand the academic content required for entry into postsecondary education and employment in the identified industry sector. • Academics include core content standards in: (1) Mathematics; (2) Science, and (3) History/Social Science.
2.0	**Communications**	• Students understand the principles of effective oral, written and multimedia communication in a variety of formats and contexts. • Communications include core content standards in: (1) Reading; (2) Writing; (3) Written and Oral English Language Conventions; and (4) Listening and Speaking.
3.0	**Career Planning and Management**	• Students understand how to make effective decisions, utilize career information, and manage personal career plans.
4.0	**Technology**	• Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments.
5.0	**Problem Solving and Critical Thinking**	• Students understand how to create alternative solutions using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques.
6.0	**Health and Safety**	• Students understand health and safety practices, policies, procedures, and regulations, including equipment and hazardous material handling.
7.0	**Responsibility and Flexibility**	• Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings.
8.0	**Ethics and Responsibilities**	• Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms.
9.0	**Leadership and Teamwork**	• Students understand effective leadership styles, key concepts of group dynamics, team and individual decision-making, the benefits of workforce diversity, and conflict resolution.
10.0	**Technical Knowledge and Skills**	• Students understand the essential knowledge and skills common to all career pathways within the identified industry sector.
11.0	**Demonstration and Application**	• Students demonstrate and apply the concepts contained in the foundation and career pathway standards.

Back to: 21 22 30 32

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)

1	**Agriculture and Natural Resources Industry Sector**	A. Agricultural Business Pathway B. Agricultural Mechanics Pathway C. Agriscience Pathway D. Animal Science Pathway E. Forestry and Natural Resources Pathway F. Ornamental Horticulture Pathway G. Plant and Soil Science Pathway
2	**Arts, Media, and Entertainment Industry Sector**	A. Media and Design Arts Pathway B. Performing Arts Pathway C. Production and Managerial Arts Pathway
3	**Building Trades and Construction Industry Sector**	A. Cabinetmaking and Wood Products Pathway B. Engineering and Heavy Construction Pathway C. Mechanical Construction Pathway D. Residential and Commercial Construction Pathway
4	**Education, Child Development, and Family Services Industry Sector**	A. Child Development Pathway B. Consumer Services Pathway C. Education Pathway D. Family and Human Services Pathway
5	**Energy and Utilities Industry Sector**	A. Electromechanical Installation and Maintenance Pathway B. Energy and Environmental Technology Pathway C. Public Utilities Pathway D. Residential and Commercial Energy and Utilities Pathway
6	**Engineering and Design Industry Sector**	A. Architectural and Structural Engineering Pathway B. Computer Hardware, Electrical, and Networking Engineering Pathway C. Engineering Design Pathway D. Engineering Technology Pathway E. Environmental and Natural Science Engineering Pathway

Back to: 21 22 30 32

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

Use With High-Quality Element Two

CTE Aligned Content Standards Chart

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

	Writing (Grades Nine and Ten)	Agriculture	Arts. Media	Building	Education	Energy	Engineering	Fashion	Finance	Health	Hospitality	Information	Manufacturing	Marketing	Public Service	Transportation
1.1	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														
1.2	Use precise language, action verbs, sensory details, appropriate modifiers, and the active rather than the passive voice.	X														
1.3	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
1.4	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
1.5	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
1.6	Integrate quotations and citations into a written text while maintaining the flow of ideas				X				X			X	X	X		
1.7	Use appropriate conventions for documentation in the text, notes, bibliographies by adhering to those in style manuals (e.g., *Modern Language Association Handbook, The Chicago Manual of Style).*				X		X		X			X	X	X		X
1.8	Design and publish documents by using advanced publishing software and graphic programs.				X	X	X		X			X	X	X		X
1.9	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		

California Career Technical Education Model Curriculum Standards, page 405

Use With High-Quality Element Two

CTE "Hot List" For California Content Standards

Language Arts - Grades 9/10

1. **Do the students learn vocabulary in this unit?**
   - R 1.1 Use the literal/figurative meaning of words
   - R 1.2 Know denotative/connotative word meanings

2. **Do the students comprehend text in this unit?**
   - R 2.1 Analyze structure/format of workplace documents
   - R 2.3 Generate relevant questions from readings
   - R 2.4 Synthesize content from several sources by a single author
   - R 2.5 Extend ideas in primary/secondary sources
   - R 2.7 Critique the logic of functional documents looking for reader misunderstandings
   - R 2.8 Evaluate credibility of the author's argument

3. **Do the students write in this unit?**
   - W 1.1 Establish a coherent thesis to convey a clear perspective
   - W 1.2 Use precise language and the active voice
   - W 1.3 Use clear research questions and suitable research methods
   - W 1.4 Develop main ideas within the composition
   - W 1.5 Synthesize information from multiple sources
   - W 1.6 Integrate quotations/citations into written text
   - W 1.9 Revise writing to improve coherence and word choice
   - W 2.1 Write narratives
   - W 2.3 Write research reports
   - W 2.4 Write persuasive compositions
   - W 2.5 Write business letters
   - W 2.5 (Gr. 11/12) Write job applications and resumés
   - C 1.1 Use correct clauses and correct mechanics of punctuation
   - C 1.2 Use good sentence structure and proper English
   - C 1.3 Use good grammar, paragraph structure, and diction/syntax
   - C 1.4 Produce legible work with accurate spelling

4. **Do the students give an oral presentation in this unit?**
   - LS 1.1 Formulates and supports judgments about ideas under discussion
   - LS 1.3 Choose logical patterns of organization
   - LS 1.4 Use appropriate techniques to develop the introduction and conclusion

Back to: 23 30 32

LS 1.5 Use the elements of classical speech forms
LS 1.6 Advance a thesis statement using appropriate types of proof
LS 1.7 Use props, visual aids, electronic media to enhance presentation
LS 1.8 Produce concise notes for extemporaneous delivery
LS 1.9 Analyze the occasion and interest of the audience
LS 2.1 Deliver narrative presentations
LS 2.3 Apply appropriate interviewing techniques
LS 2.5 Deliver persuasive arguments
LS 2.6 Deliver descriptive presentations

Mathematics - Grade 7

5. Do the students compute numbers in this unit?

NS 1.2 Add, subtract, multiply, and divide rational numbers
NS 1.6 Calculate the percentage of increase/decrease of a quantity
NS 1.7 Solve problems of discounts, markup, commissions, etc.
NS 2.2 Add and subtract fractions finding common denominators
NS 2.3 Multiply and divide rational numbers using exponent rule

6. Do the students complete algebraic functions in this unit?

AF 1.2 Use correct order of operations to evaluate algebraic expressions
AF 4.2 Solve multi-step problems involving rate, average speed, etc.

7. Do the students use measurement and/or geometry in this unit?

MG 1.1 Compare measures within a measurement system
MG 1.2 Construct and read drawings/models made to scale
MG 1.3 Use measures to solve problems
MG 2.1 Use formulas to find perimeter and area of simple figures
MG 2.2 Estimate and compute area of complex figures
MG 2.3 Compute perimeter, area, and volume of 3D figures
MG 3.4 Understand the conditions that indicate two geometric figures are congruent

8. Do the students use mathematical reasoning (problem solving) in this unit?

MR 1.1 Analyze problems by identifying relationships and patterns
MR 1.2 Formulate mathematical conjectures for the problem posed
MR 2.1 Use estimation to verify the reasonableness of a solution
MR 2.4 Make and test conjectures using inductive/deductive reasoning
MR 3.1 Evaluate reasonableness of a solution within context of the original situation
MR 3.3 Develop generalizations of the results obtained and strategies used

Use With High-Quality Element Two

STANDARDS-ALIGNED WRITING APPLICATION FORM

Student's Name _____

Writing Prompt:
Write a cover letter to a possible employer.

Tips for Writing: A successful cover letter should:
1. Follow a business letter format.
2. Contain a clear statement as to the job you are seeking.
3. Contain a description of your training and experience.
4. Contain brief summary of why you are applying for the job.
5. Contain a specific request for an interview.
6. Contain a thank you for consideration of employment.

Scoring

5 = Advanced **4 = Mastery** **3 = Basic** **2 = Below Basic** **1 = Far Below Basic**

Standards for Writing Strategies	Student Score	Teacher Score
1.1 Writes a paper that flows from one point to another, providing the reader with a clear idea of the topic.		
1.2 Uses precise language when writing, allowing the reader to understand the text.		
1.4 Writes the paper so the main idea(s) is clear to the reader.		
1.9 Revises the writing to improve the sequence of text and the choice of words.		

Standards for Writing Application – Writing Research Reports (2.5)

2.5 a Provides clear information, addressing the intended audience appropriately.		
2.5 b Uses appropriate vocabulary and style, taking into account the nature of the relationship with the individual and the knowledge and interests of that individual.		
2.5 d Follows a conventional style with page formats, fonts, and spacing that contribute to the documents' readability and impact.		

Standards for Oral and Written Conventions

1.1 Uses correct punctuation.		
1.2 Uses good sentence structure and proper English.		
1.3 Uses good grammar and proper structure of paragraphs.		
1.4 Writes legibility and spells words accurately.		

Back to: 23 30 32

Use With High-Quality Element Two

STANDARDS-ALIGNED WRITING APPLICATION FORM

Student's Name _____

Writing Prompt:
Write a personal resumé.

Tips for Writing: A successful resume should:	
1.	Follow a successful resume format.
2.	Let the employer know who you are and how you can be contacted.
3.	Let the employer know the position you want.
4.	List your experience, education, skills, and abilities.
5.	Be well organized using bullets instead of lengthy paragraphs.
6.	Contain words that are all spelled correctly and grammar that is 100% correct.
7.	**Not** contain personal pronouns, especially the word "I."

Scoring

5 = Advanced 4 = Mastery 3 = Basic 2 = Below Basic 1 = Far Below Basic

Standards for Writing Strategies		Student Score	Teacher Score
1.2	Uses precise language when writing, allowing the reader to understand the text.		
1.4	Writes the paper so the main idea(s) is clear to the reader.		
1.9	Revises the writing to improve the sequence of text and the choice of words.		

Standards for Writing Application – Writing a resume (2.5 – Grades 11/12)

2.5 a	Provides clear information, addressing the intended audience appropriately.		
2.5 b	Uses the type of language to achieve the intended effects and aid in the understanding of the resume.		
2.5 c	Uses the proper tone of language to fit the purpose of the document and the intended audience.		
2.5 d	Follows the conventional writing style for resumes, using proper page format, fonts, and spacing.		

Standards for Oral and Written Conventions

1.1	Uses correct punctuation.		
1.2	Uses good sentence structure and proper English.		
1.3	Uses good grammar and proper structure of paragraphs.		
1.4	Writes legibility and spells words accurately.		

Use With High-Quality Element Two

Writing A Standards-Aligned Course: A Step-By-Step Process

No.	Task	Completed
1.	Identify the type of CTE course to be written and where this course fits into the course sequence and student's career plan.	
2.	Understand the Career Pathway and Foundation Standards, learning the difference between the two, their purpose, organizational structure, and the way they support the fifty-eight different career pathways.	
3.	Identify a Career Pathway that will be the "backbone" for the course.	
4.	Use the course template (see page 56) and begin the writing process, filling in the sections titled *Basic Information*, *Career Plan*, and *Occupations for the Identified Pathway*.	
5.	Use the information from the Career Pathway and Foundation Standards to write the unit titles and descriptions, using key words and ideas from the Standards. (See completed course outline for a model, pg. 78)	
6.	Use the unit descriptions to write the *Student Competencies* that identify the measurable skills students will obtain.	
7.	Use the unit descriptions to write the *Course Description*, *Course Goals*, and *Course Objectives*. These sections will contain key words found in the unit descriptions, reflecting alignment to the Career Pathway and Foundation Standards.	
8.	Write the *Instructional Strategies* that identifies the instructional techniques used to teach the course content, making sure to incorporate differentiated instructional strategies to meet the needs of low-performing, ELL, special education, average, and gifted students. (For more information about Differentiated Instruction, see EPC 6)	
9.	Write the class and lab hours for each unit, creating a course pacing guide.	
10.	Write the *Course Outline* to reflect the information written in the unit descriptions by: a. Writing the title of each course unit. b. Writing a list of key concepts and skills that will be addressed. c. Writing a list of concept and skill benchmarks for each unit. d. Aligning the Career Pathway and Foundation Standards to each unit. e. Writing M, R, or T by each standard, stating if the standard will be mentioned, reinforced, or taught in that unit.	

Back to: 23 30 32

Use With High-Quality Element Two

Sample Course Using CTE Online

Lesson: Vise Jaw Covers –

This lesson is designed as a very basic first assignment for my METALS I students as a way to introduce them to various tools, terms, safety, and the importance of taking precise notes and accurate measures when provided specs for a given task.
In the end each student will produce two covers for the vise jaws made from two 4.5 x 2.5 inch pieces of 18 gauge galvanized sheet metal. Students spend about the first 10-15 minutes of this lesson getting direct instruction from me on the exact procedure to follow in order to measure, mark, scribe, cut, and finally form their covers. I allow them an eighth of an inch tolerance from my specs. They may use their notes and diagrams during their time in the shop.

- Academic Standards: 8
- CTE Standards: 6
- CAHSEE Questions: 5
- ☆STAR Questions: 16

Activities	Standards	Assessments	Documentation
To start out this lesson, I show students the raw materials that we will begin (rectangular pieces of sheet metal) with and then an example of the finished products (vise jaw covers). I ask students what types of tools in the shop would assist us in this work to see if they can start to correctly identify the names of the tools and their functions. they record all the steps of our project that we are about to do in the shop in their work journals.	**Academic** ELA.9-10.LAS.1.1 ELA.11-12.W.1.7 ☆(2) **CTE** MAPD.5.3 MAPD.6.4 MAPD.C..C10.2	This overview and discussion is fairly simple and informal, but does help me start to see which of my students have or have not paid attention during the two previous lessons in which we went over various pieces of equipment, their function, and safe use.	 Activity Introduction Video — *i_tech1123.mov* (1.14 MB)

Back to: 24 30 32

Activities	Standards	Assessments	Documentation
Based on the preceding discussion, students know that they are going to have to perform some precise measurements in order to create half-inch radius arcs when rounding the corners of their plates as well as creating the perpendicular fold in the correct location. So I provide students a handout with all relevant specs and a place for them to take notes on the procedure they must use to ensure accuracy and safety once we begin the activity in the shop.	**Academic** ELA.11-12.W.1.7 ☆(2) ELA.9-10.W.2.6b M.7.NS.1.6 (1) ☆(1) **CTE** MAPD.5.3 MAPD.6.4	While I don't collect the notes, measurements, and procedures that students write down during this assignment, I do remind them that, once in the shop, this is the only tool they will have in order to guide their work. This tends to help them work pretty hard to write everything down so that they can create a product with as few deductions as possible. I do monitor the amount of information they write visually, and urge some students to be more thorough when needed.	 Product Specification Handout — *VISEJAWCOVERS123.doc* (26.5 KB)
Once I have finished giving them instruction on the process, the tools to use, and demonstrating each step of the activity, I ask students to switch their notes with a partner and give them feedback on whether the notes would be sufficient to walk each other through the steps had they not participated in this instruction.			

Activities	Standards	Assessments	Documentation
Students pick up their materials and tools and go to their assigned work tables in the shop. They start by measuring and marking their plates. This is where students are left to use their notes and must rely upon their own comprehension of terms like radius, arc, perpendicular, intersects, etc... while I do monitor their progress for time's sake and safety, and will aide them in the use of the tools they must follow their own notes and measurements for guidance.	**Academic** M.7.NS.1.2 (3) ☆(4) M.7.MAG.3.1 ☆(1) **CTE** MAPD.5.3 MAPD.6.4 MAPD.C..C6.2	In order to assess progress during the activity in the shop, I have students bring me their plates prior to cutting the corners off to simply eye-ball their guidelines to check for parallel distances between them as well as perpendicular intersects. Once they get my okay, they can use their compass to create their arc, then cut.	
Finally, students take their modified plates and use the brake to bend them across a precise line at a ninety degree angle. Once they have formed their cover and sanded all sharp edges down they see me for a final sign-off before installing on their table's vise and then clean up their work area.	**Academic** M.7.MAG.3.1 ☆(1) **CTE** MAPD.C..C6.2 MAPD.C..C10.1 MAPD.C..C10.2	I require the students to swap their finished products with their partner from earlier in the lesson for inspection. This keeps me from having to inspect each product (which time does not allow for), and starts students working in the area of inspection using tools such as calipers, combination squares, and initial spec sheets for tolerance analysis. Students check the measures, the math, and the final product as a whole.	

Activities	Standards	Assessments	Documentation
If time allows, I like to bring students together to lead a quick discussion on how critical it is to take thorough notes, precise measurements, calculate accurately, and select the right tools. We also discuss how any deviance at any of those points, can lead to a poorly designed or non-functional and/or unsafe product.	**Academic** **CTE** MAPD.5.3	As part of this closing activity, we talk about the role of describing and notating shapes with accuracy and the limitations of hand drafting and fabricating once shapes become more sophisticated.(I show some examples that would be nearly impossible to describe in written terms) I like to finish by taking a quick peek at some of the equipment we will use later in the semester to assist us with this more elaborate work as a way to generate interest and engagement in anticipation of this course.	 picture of complex shape — *BOTTLE2123.JPG* (740 KB)  Shop Work and Wrap-up Video — *i_tech3123.mov* (1.40 MB)
I wrap up by having them read an article on the various applications of plasma welding...then they take notes in their work journal on what things they'd like to try later in the semester.	**Academic** ELA.11-12.R.2.3 ☆(2) **CTE** MAPD.C..C2.1	Generally, I just ask a couple of clarifying questions from key points in the article to keep the group focused on the reading.	
Last, I have students clean up, and place all equipment and materials away in their correct places	**Academic** **CTE** MAPD.6.4	We use a sign-off sheet to make sure all instructions were followed accurately and a visual check of the shop to make sure clean-up was complete.	 sign-off sheet — *mypov_content.doc* (23.5 KB)

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	Entrepreneurship Pathway B 5.0: Students understand the key economic concepts that affect small business ownership	
Standard Sub-component	Entrepreneurship Pathway B 5.1 Understand the role and importance of entrepreneurship and the small business in the economy.	
Course Level	☐ Introductory ☐ Concentration ☐ Capstone	
Title	**Knowledge/Skills**	**Benchmark/Level**
• What do students need to know? • At what level?	1. Key economic concepts that affect small business ownership. 2. Definition of entrepreneurship. 3. The role of and importance of entrepreneurship and the small business in the economy.	1. Cite at least five concepts and explain how they affect small business ownership. 2. Give the basic definition of entrepreneurship. 3. Discuss the role and importance of entrepreneurship and the small business in the economy at a level appropriate to a small business owner.
• What should students be able to do? • At what level?	1. Research and explain the key economic concepts that affect small business ownership. 2. Explain the role and importance of entrepreneurship and small business in the economy.	1. Conduct research on key economic concepts and analyze their effect on small business ownership, demonstrating an understanding appropriate for a small business owner. 2. Research and apply prior knowledge to analyze the role and importance of entrepreneurship and small business in the economy.
• Topics/contexts What must be taught?	1. Basic knowledge of concepts (# 1-3 above). 2. Techniques of conducting research to produce desired results. 3. Interpreting information and drawing conclusions.	

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.

Back to: 27 31 32

Use With High-Quality Element Two

Designing Standards-Based Assessments

Assessments are used to determine the extent to which students have mastered the standard. Since one of the major strengths of CTE programs is the applied, authentic, hands-on nature of learning, it is important that teachers design performance and/or project-based assessments as well as paper and pencil tasks. Performance or project-based assessment, keyed to a Pathway Standard, assess students skills and also the student's performance on a variety of Foundation Standards. All assessments should address one or more of the identified standards for the course. For additional types of assessments, see EPC Five.

Career Pathway Standard	
Entrepreneurship Standard B 4.4	Understand how market research is used to develop strategies for marketing products or services in a small business
Performance Task	
Performance Task Prompt	Identify a product or services offered by a small business. Conduct market research about the product or service, make decisions based on the research, then design an appropriate marketing tool. Write a research report explaining about your findings then use the information learned to create and present a 30-second radio advertisement.
Foundation Standards	
Communication 2.2	**Writing**
Writing Strategy 1.3	Structure ideas and arguments in a sustained, persuasive, and sophisticated way and support them with precise and relevant examples.
Writing Strategy 1.5	Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium
Writing Strategy 1.9	Revise writing to improve the logic and coherence of the organization and controlling perspective.
Writing Application 2.3	Write expository compositions, including research reports: a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives. c. Make distinctions between the relative value and significance of specific data, facts, and ideas. f. Use technical terms and notations accurately.
Communication 2.3	**Written and Oral English Conventions**
Oral and Written Convention 1.4	Produce legible work that shows accurate spelling and correct use of the conventions of punctuation and capitalization.
Communication 2.4	**Listening and Speaking**
Listening and Speaking Strategy 1.6	Present and advance a clear thesis statement and choose appropriate types of proof that meet standard tests for evidence, including credibility, validity, and relevance.
Listening and Speaking Application 2.2	Deliver expository presentations: b. Convey information and ideas from primary and secondary sources accurately and coherently. c. Make distinctions between the relative value and significance of specific data, facts, and ideas.

Back to: 27 31 32

Use With High-Quality Element Two

Lesson Plan Format

Course:	Grade Level:	Teacher:	Date:

PRE-LESSON PLANNING	
Standard	
Learning Objectives	
Design the Assessment	
Design Assessment Rubric (if Needed)	
TEACHING THE LESSON	
Tell the students the Standard(s) being taught by:	
Activate Prior Knowledge	
Standards-based Instruction	
Check for Student Understanding by:	
Guided Practice	
Check for student understanding by: • Observing the students as they complete the guided practice activity.	
Closing Activity Summarizing the Learning	
STUDENT WORK	
Independent Practice	
POST LESSON ACTIVITIES	
Student Assessment	
Provide feedback to the student with the results of the assessment by:	
Receive student response to the teacher's assessment feedback by:	

Back to: 27 31 32

Use With High-Quality Element Two

EXAMINING STUDENT WORK

Teaching and learning are two different aspects of the lesson, just as fishing and catching are two aspects of fishing. During a lesson, the instructor will give the student an assignment that is completed by the student and then given back to the instructor. Feedback of the student's work becomes the next important step in the learning process and may consist of:

1. **Self– or peer assessment of the work**

   Self– or peer assessment of student work is just what it states. The student or a peer scores the student's work using a rubric as a scoring guide. In this way, the student sees, first hand, the strengths and weaknesses of his/her work.

2. **Teacher assessment of the work according to the rubric and specific commentary of the work**

   Using the rubric, the teacher is now prepared to make a judgment about the extent of the student's knowledge. The rubric provides clarity for the expectations of the task. When grading a performance assignment, the teacher could circle the rubric description that best reflects the student's achievement.

3. **Students response to the teacher's specific commentary**

   In most settings, once the student receives a grade on an assignment, the paper is put away and often forgotten. Learning is enhanced when the student is asked to respond to the teacher's comments. Two options come to mind:

   a. Write a response to the teacher's comments. The student could be asked to write a paragraph in response to teacher's comments consisting of: (1) a topic sentence that indicates general agreement or disagreement with the teacher comments; (2) two or three supporting sentences; and (3) a concluding sentence reflecting how the student will use the feedback to improve future performance.

   b. Redo a portion of the assignment. If a student has been marked down for a specific portion of the assignment, then handing in an improved paper or redoing that part of the performance task would improve his/her grade as well as continue the learning process.

(*Career Technical Education Framework for California Public Schools*, pages 56-57)

Back to: 27 31 32

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).

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.

Back to: 28 31 32

Back to: 29 31 32 52 53 54

Use With High-Quality Elements Two and Six

SAMPLE PACING GUIDE FOR CTE COURSES

UNIT 5: Technology in a Small Business

Time	Pathway Standards	Foundation Standards	Benchmark
9 Hrs. Class Time 2 Hrs. Lab Time 7 Hrs.	B 3.1 Know how technology and electronic media can be used to manage work flow and provide feedback for operational efficiency. B 3.2 Know important technologies affecting small businesses and how they impact operations.	Foundation Standards 2.0: Communication Lang. Arts Standards Gr. 9/10 (paraphrased) W 1.2 Use precise language, action verbs W 1.3 Use clear research questions and methods W 1.5 Synthesize information from multiple sources W 1.9 Revise writing to improve coherence and word choice W 2.3 Write a research paper C 1.1 Use correct clauses and mechanics of punctuation C 1.2 Use correct sentence construction C 1.3 Use proper English, proper grammar, and correct paragraph structure C 1.4 Produce legible work with correct spelling **Foundation Standard 4.0 (Paraphrased)** FS 4.2 Use technological resources to gain access to, manipulate, and produce information, products, and services. FS 4.3 Understand influence of technology on selected segments of the economy.	Students write a paper about the impact of technology on small businesses, the use of technology for managing work, and how technology provides feedback on operational efficiency. Students use information learned from the guest speaker and independent internet research.
4 Hrs. Class Time .5 Hrs. Lab Time 3.5 Hrs.		Foundation Standards 2.0: Communication Lang. Arts Standards Gr. 9/10 (paraphrased) LS 1.3 Choose logical patterns of organization LS 1.7 Use props, visual aids, electronic media to enhance presentation LS 1.9 Analyze the occasion and interest of the audience. LS 2.6 Deliver descriptive presentations C 1.2 Use proper sentence construction C 1.3 Use proper English and grammar. **Foundation Standard 4.0** FS 4.1 Understand past, present, future technological advances related to small businesses.	Working in two teams, students give an oral demonstration on how technology is used in a small business in a specific era of time. Team one presents technology used in the 1980's and team two presents technology used in the 21st century.
2 Hrs. Class time 2 Hrs.	B 3.2 Know important technologies affecting small businesses and how they impact operations.	**Foundation Standard 4.0** FS 4.5 Know the procedures for maintaining secure information, preventing lose, and reducing risk.	Students discuss information learned from the guest speak concerning information security in a technological society.

Use With High-Quality Element Four

Perkins and Consolidated Programs for Special Populations

For students to succeed in an age of increasing classroom rigor and competition for employment, proactive student support services are of paramount importance. In particular, attention must be invested in addressing the needs of special populations.

The following chart identifies the special populations and possible funding sources.

Perkins and CTE Special Populations	Consolidated Programs
Individuals from **economically disadvantaged** families: including foster children	Title I
Individuals with **disabilities**	Special Education
Individuals with **Limited English proficiency**	English Language Learners and Migrant
Teen Parents including **single pregnant minors**	CalSAFE
Individuals preparing for **Nontraditional occupations** – based on **gender**	Gender Equity and Title IX
Displaced homemakers – adult students	Adult Schools

Back to: 38 39 40

Use With High-Quality Element Four

Career Technical Student Organizatons (CTSO)

The CTSOs are sponsored under the auspices of the Secondary, Postsecondary, and Adult Leadership Division of the CDE. Within this Division are managers and consultants who serve as the State Advisor for their respective CTSO.

The Secondary, Postsecondary, and Adult Leadership Division provides oversight, establishes procedures, and provides leadership to the overall operation of the CTSOs. The State Advisors of each approved CTSO work with the Division Director as a Leadership Team in establishing policy and direction for all CTSOs in California.

Student Leadership Organizations were established with the commitment to making a positive difference in the lives of young people. In addition to offering a wide variety of specific career and technical training, CTE integrates student leadership elements, which complements student participation in these courses and programs. The term "Career Technical Student Organizations" means an organization for individuals enrolled in a CTE program that engages in leadership activities as an integral part of the instructional program.

CTSOs are not after-school clubs where only a few CTE students belong. They are a powerful instructional tool integrated into the career and technical curriculum and classroom. CTSOs present organized activities for students to gain personal and leadership skills making them more employable, preparing them to become productive citizens, and assisting them in assuming positive roles in the home and community.

Currently approved Career Technical Student Organizations include:

DECA: An Association of Marketing Students, provides teachers and members with educational and leadership development activities to merge with the education classroom instructional program.

FBLA: A dynamic organization for Agricultural Science and Technology Education Students who desire to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education.

FHA-HERO: Since 1945, Family and Consumer Science Education Students have been making a positive difference in their families, careers and communities by addressing important personal, work and societal issues through family and consumer sciences education.

FFA: A secondary student organization that is an integral part of each comprehensive Agricultural Education Program. Its mission is to make a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through Agricultural Education.

HOSA: Health Occupations Students of America's two fold mission is to promote career opportunities in the health care industry and to enhance the delivery of quality health care to all people.

Skills USA: An organization serving Trade and Industrial Education Students and professional members who are enrolled in technical, skilled and service occupations.

Back to: 14 18 38 39 40

Career Technical Student Organization (CTSO)
Career Pathways and Contact Information

	Associated Industry Sectors and Career Pathways	Organization Contact Information
	Cal- HOSA Health Science and Medical Technology • Biotechnology Research and Development • Diagnostic Services • Health Informatics • Support Services • Therapeutic Services	**Health Occupations Students of America** www.cal-hosa.org Contact: Cindy Beck CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-319-0470 CBeck@cde.ca.gov
	California Association FHA-HERO Education, Child Development and Family Services • Child Development • Consumer Services • Education • Family and Human Services Fashion and Interior Design • Fashion Design, Manufacturing, and Merchandising • Interior Design, Furnishings, and Maintenance Hospitality, Tourism, and Recreation • Food Science, Dietetics, and Nutrition • Food Service and Hospitality • Hospitality, Tourism, and Recreation	**California Association FHA-HERO** www.hect.org/fhahero Contact: Janice DeBenedetti CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-319-0890 JDeBened@cde.ca.gov
	DECA Marketing, Sales, and Services • E-Commerce • Entrepreneurship • International Trade • Professional Sales and Marketing	**An Association of Marketing Students** www.cadeca.org Contact: Kay Ferrier CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-323-4747 kferrier@cde.ca.gov
	FBLA Finance and Business • Accounting Services • Banking and Related Services • Business Financial Management Information Technology • Information Support and Services • Media Support and Services • Network Communications • Programming and Systems Development	**Future Business Leaders of America** www.cafbla.org Contact: Kay Ferrier CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-323-4747 kferrier@cde.ca.gov

	Associated Industry Sectors and Career Pathways	Organization Contact Information
	FFA Agriculture and Natural Resources • Agricultural Business • Agricultural Mechanics • Agriscience • Animal Science • Forestry and Natural Resources • Ornamental Horticulture • Plant and Soil Science	**Future Farmers of America** www.calaged.org Contact: Josiah Mayfield CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-319-0486 JMayfield@cde.ca.gov
	SkillsUSA California Arts, Media, and Entertainment • Media and Design Arts • Performing Arts • Production and Managerial Arts Building Trades and Construction • Cabinetmaking and Wood Products • Engineering and Heavy Construction • Mechanical Construction • Residential and Commercial Construction Energy and Utilities • Electromechanical Installation and Maintenance • Energy and Environmental Technology • Public Utilities • Residential and Commercial Energy and Utilities Engineering and Design • Architectural and Structural Engineering • Computer Hardware, Electrical, and Networking Engineering • Engineering Design • Engineering Technology • Environmental and Natural Science Engineering Manufacturing and Product Development • Graphic Arts Technology • Integrated Graphics Technology • Machine and Forming Technology • Welding Technology Public Services • Human Services • Legal and Government Services • Protective Services Transportation • Aviation and Aerospace Transportation Services • Collision Repair and Refinishing • Vehicle Maintenance, Service, and Repair	**SkillsUSA California** www.skillsusaca.org Contact: Dara Dubois CA Department of Education 1430 N Street, Suite 4503 Sacramento, CA 95814 916-445-7754 DDubois@cde.ca.gov

Use With High-Quality Element Six

State-Funded Course Sequencing Plan for ROCPs

Per AB2448

Educational Code 53202 (b)(1): On or before July 1, 2008 (due to CDE no later than June 30, 2009) all governing boards of Regional Occupational Centers or Programs (ROCP) are required to develop a plan for establishing sequences of state-funded courses, in which both the ROCP and community college offer instruction. ROCPs located in rural areas, without reasonable assess to community college, may meet this requirement by sequencing courses between high school and ROCP.

#	Ed. Code	Developing the Course Sequence Plan	Done
1.	E.C. 52302(b) (1)	Describe the steps that will be taken to identify state funded courses offered by the Regional Occupational Center or Program in pathways in which the ROCP and community college both offer instruction	
2.		Include in the plan information on how items listed in E.C. 52302 (1), (2), (3), and (4) will be addressed. *Note: Not all courses will meet the requirements in E.C. 52302 (1), (2), (3), and (4).* **(See E.C. 52302 (1), (2), (3), and (4) below)**	
3.		Provide a timeline for accomplishing the sequencing of courses.	
4.	E.C. 52302 (5)	Describe how the plan maximizes local, state, and federal resources to help high schools enter employment, apprenticeships, or postsecondary education.	
5.	E.C. 52302 (6)	Describe strategies that will be used to fill in the gaps in courses identified through the planning process.	
6.	E.C. 52302 (2)	List each school district governing board and the date in which the plan was presented in public hearing. A copy of the minutes from each board meeting should be maintained by the RCOP.	
7.	E.C. 52302 (2)	Provide the date in which the plan was approved by the ROCP governing board.	
8.	E.C. 52303 (3)	Provide the name of the community college(s) and the date in which the plan was reviewed in public session.	
9.	E.C. 52302 (7)	A copy of this document is to be given to the appropriate community college or colleges in the region.	

What AB2448 says about Course Sequencing

E.C. 52302 (1)	On or before July 1, 2008, the governing board of each program or center shall develop a plan establishing sequences of courses, and certify to the department that those sequences have been developed, as described in subdivision 52302(a). The ROCP shall consult with the superintendents of the school districts served by the ROCP, the presidents of community colleges in the area, during the development of the plan.
E.C. 52302 (2)	The plan shall be presented at a public hearing by the governing board of each school district served by the ROCP and by the county board of education.
E.C. 52302 (3)	Community college boards, with identified articulated programs, shall also review the plans in a public session.
E.C. 52302 (4)	In developing the plan, each ROCP shall consult with school districts and community college districts located within the region served by the ROCP, and with the relevant occupational advisors and local Workforce Investment Board(s) to ensure the plan meets the vocational needs of high school pupils in the region by providing sequences of courses that begin with middle or high school introductory courses, including, but not limited to, occupational skill courses provided by high schools or an ROCP.

Back to: 47 52 54

Use With High-Quality Element Six

Identification of the Career Technical Education (CTE) Sequence of Courses to be Asisted With Perkins IV Funds

Instructions: Based on the evaluation of the CTE programs offered, a local needs assessments, and a review of the core performance indicator identify each sequence to be assisted with Perkins IV funds for the duration of this plan. Only those sequences included in the local educational agency's (LEA) approved 2008-2012 local plan are eligible for assistance with Perkins funds.

- Identify the Industry Sector title and the Career Pathway title for each sequence.
- List all CTE courses in the sequence and check the appropriate course level, funding source, indicate if Perkins funds will be used in this course, and duration (in hours) for each course.
- Sequences culminating in a Regional Occupational Center Programs (ROCP) course should list the ROCP course name and indicate that course as a capstone class.
- Complete a separate "Course Sequence" form for each sequence to be assisted by Perkins IV funds.

Industry Sector: ________________________________ **Career Pathway:** ______________________________

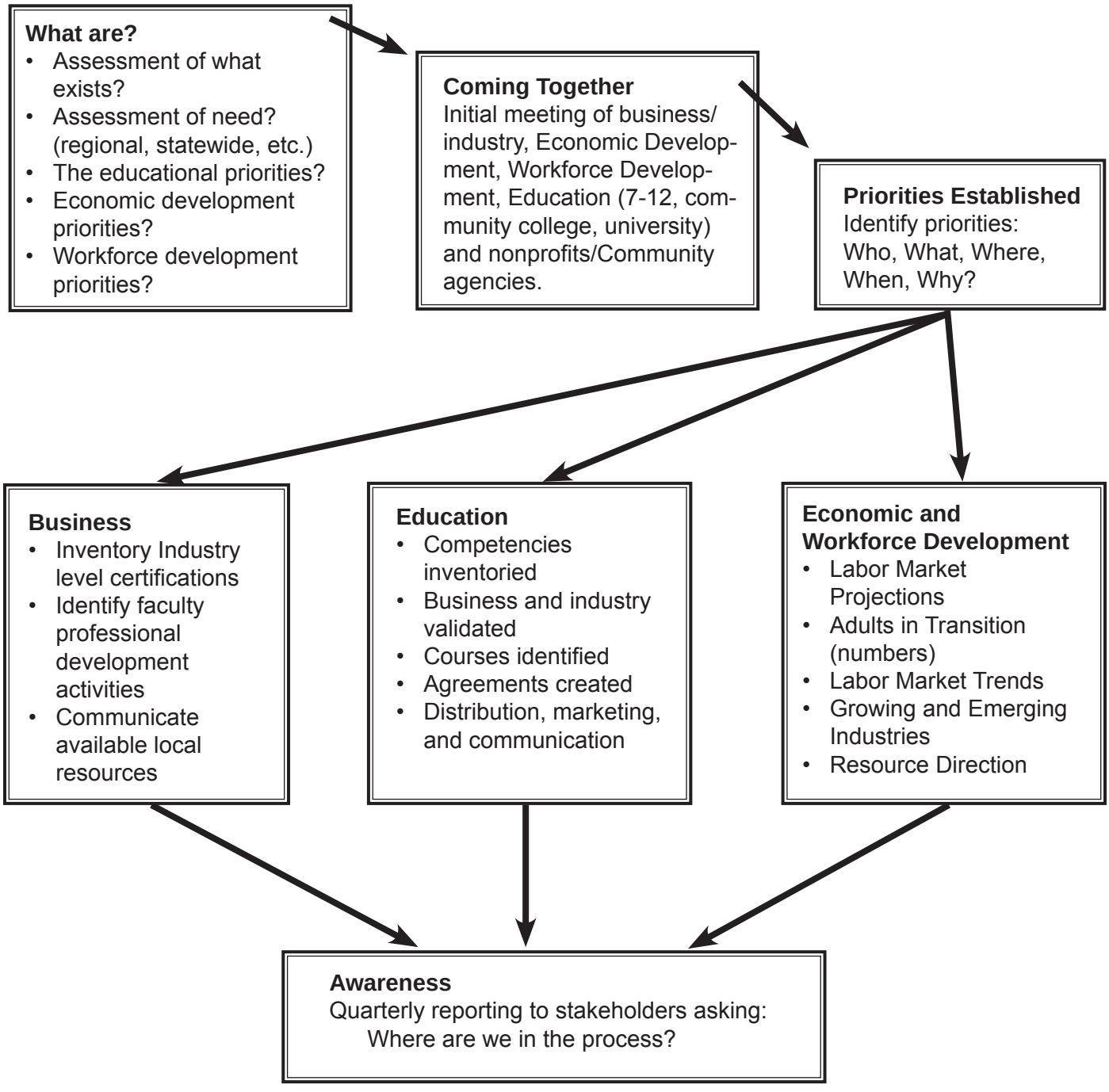
District funded course provided in this sector if not included in this sequence: ____

Sequence of Courses	Course Level			Primary Funding Source		Perkins Funded	Total Duration
Name of Course	Intro.	Concentration	Capstone	District/ COE	ROCP	Yes or No	(in hours)
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		
	☐	☐	☐	☐	☐		

Back to: 47 53 54

Use With High-Quality Element Six

Career Pathway Programs of Study Development Process



Back to: 48 53 54

Use With High-Quality Element Six

Education Component for Career Pathway Program of Study Development Process

Competencies Inventoried

- Postsecondary Course Objectives
- State Career Clusters Initiative Knowledge and Skill Standards
- Industry Standards
- Professional Organization Standards
- Existing Essential Learnings

Participants Involved

- 7-12 Educators
- Postsecondary Faculty
- Community College
- University
- State Colleges
- Private Colleges/ Universities
- Proprietary Institutions
- Trainer/Human Resources (knowledgeable of standards)
- NCD Staff (co-facilitators)

Business and Industry Validated

- Electronically communicated/ voted on/input provided

Courses Identified

- NDE Staff follow up with faculty on course development
- 7-12, CC and 4-year faculty Developed Program of Study
- Aligned academies and supportive courses
- Certifications /Assessments /expectations outlined

Agreements Created

- Coordinating Commission for Postsecondary Education courses formalized agreements

Distribution/ Marketing/ Communication

- PFI and NCF staff communicate opportunities to students, parents, college and high school stakeholders

Evaluation/ Accountability

- Review of courses/ competencies every 4 years

Back to: 48 53 54

Use With High-Quality Elements Six and Seven

Program of Study Course Sequencing Form

CTE PROGRAM OF STUDY	Industry Sector:	
	Career Pathway:	
Secondary & Post Secondary	Program:	

Level	Gr.	ELA	Math	Science	Social	CTE COURSES	Other Required Courses	Other Recommended Courses and UC/CSU Requirements	Sample Occupations Related to this Pathway
SECONDARY	7					Career Exploration			Occupations requiring a high school diploma or equivalent
	8								
	9	California High School minimum graduation requirements. • English/Language Arts – 3 years • Mathematics – 2 years • History/Social Science – 3 years (includes American Gov. and Economics) • Science – 2 years (Biology and Physical Science) • Visual and Performing Arts or Foreign Language – 1 required • Physical Education – 2 years Other local requirements as required for graduation (E.C. 51225.3) ** Students are encouraged							
						Assessments, advising, or additional preparation			Occupations requiring some post secondary
	10								
						Assessments, advising, or additional preparation			
	11								Occupations requiring 2 year degree
						Assessments, advising, or additional preparation			
	12								Occupations requiring a BA/ BS Degree
						Assessments, advising, or additional preparation			

** Denotes Articulated and Dual Credit courses. These must be taken and moved to the secondary level for credit purposes.

Post Secondary		Minimum Academic Requirements for AA Degree	CTE Sequence – First Semester	CTE Sequence – Second Semester	
	13	Semester/Quarter Units – Minimum per Area Area A – Natural Resources (3/4) Area B – Social and Behavior Science (3/4) Area C – Humanities (3/4) Area D – Language/Rationality (3/4) Section 3 – Ethic Studies (as required)			Industry required certifications, licenses, credentials / apprenticeships related to pathway
	14				
	15	Suggested Majors:			
	16				

Use With High-Quality Element Six

PROGRAM OF STUDY WORKSHEET

This Program of Study should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

Industry Sector: _____ **Signature of Secondary Administrator:** _____

Career Pathway: _____ **Signature of Postsecondary Administrator:** _____

Program of Study: _____ **Date:** _____

This Program of Study is a formalized Tech Prep articulated pathway: **Yes** **No**

Levels	Grade	English/ Language Arts	Mathematics	Science	Social Studies	Career Technical Education Careers	Other Required Courses or Recommended Electives	SAMPLE Occupations Relating to this Pathway
SECONDARY	9							Occupations Requiring Less Than a Baccalaureate Degree • • • • •
	10							
	11							
	12							Occupations Requiring a Baccalaureate Degree • • • • •
Articulated Dual Credit courses may be taken/moved to the secondary level for articulation/dual credit purposes.								
POSTSECONDARY	Year 13							
	Year 14							Industry recognized certifications, licenses, or Credentials related to this pathway • • • • •
	Year 15							
	Year 16							

Use With High-Quality Element Six

SB 70 Course Sequencing Form

College _____
High School(s) _____

Cluster: _____
Pathway: _____
Program: _____

	Grade	English	Math	Science	Social Science	Required Courses / Recommended Elective Courses / Other Elective Courses / CTE Courses				Grade 9-12 Dual Enrollment Options
Secondary	9									
	10									
	11									
	12									
Postsecondary	Year _____ Term _____									
	Year _____ Term _____									
	Year _____ Term _____									
	Year _____ Term _____									
	Year _____ Term _____									

WHODOUWANT2B.com
Funded by the State of California

Required Courses
Recommended Required Courses
Career Education Courses
Credit-Based Transition Programs (e.g., Dual Enrollment, Articulated Courses, 2+2+2)
Assessments, Advising, or Additional Preparation During Summer Breaks

Use With High-Quality Element Six

Sample Course Sequences and Related Occupations

AGRICULTURE AND NATURAL RESOURCES INDUSTRY SECTOR PATHWAY OPTIONS

Agriculture Business Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Introduction to Agriculture	• Agriculture Biology • Agricultural Computers • Animal Science • Integrated Agricultural Science • Ornamental Horticulture • Plant Science	• Agricultural Business Management • Agricultural Economics and Policy • Agricultural Sales and Services	• Agricultural Lending Office Clerk • Agricultural Retail Salesperson • Equipment Parts Salesperson	• Customer Service Representative • Farm Accountant • Farm Realtor/ Appraiser	• Agricultural Commodity Broker • Agricultural Sales and Marketing Manager • Agricultural Supplies Purchasing Agent/ Buyer

Agricultural Mechanics Pathway

• Introduction to Agricultural Mechanics • Introduction to Agriculture	• Advanced Agricultural Mechanics • Agricultural Small Engines • Agricultural Welding	• Agricultural Fabrication/ Construction • Agricultural/ Farm Power and Equipment	• Farm Equipment Operator • Farm Equipment Parts Person • Welder	• Equipment Fabricator • Equipment Service Technician • Heavy Equipment Operator	• Agricultural Engineer • Agricultural Mechanics Teacher • Irrigation Engineer

Agriscience Pathway

• Introduction to Agriculture	• Agricultural Biology • Agriscience	• Advanced Plant and Animal Science • Agricultural Biotechnology • Agricultural Business Management	• Laboratory Aide • Laboratory Animal Caretaker • Plan Propagator	• Animal/Plant Laboratory Technician • Food Processing Technician • Quality Assurance Specialist	• Agricultural Science Teacher • Biotechnology Specialist • Plant/Animal Geneticist

Animal Science Pathway

• Introduction to Agriculture	• Agricultural Biology • Animal Science	• Agricultural Biotechnology • Animal and Plant Physiology • Veterinary Technician	• Farm and Ranch Assistant • Feed Store Clerk • Veterinary Hospital Assistant	• Breeding Technician • Livestock Feed Sales • Meat Inspector	• Animal Nutritionist • Processing Plant Manager • Veterinarian

Back to: 49 53 54

Forestry and Natural Resources Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Introduction to Agriculture	• Agricultural Biology • Integrated Agricultural Science	• Forestry • Natural Resource Management • Rural Recreation • Wildlife/Fisheries Management	• Park Ranger Aide • Soil Conservation Aide • Wilderness Firefighter	• Hunting Preserve Manager • Surveying Technician • Tree Farm Supervisor	• Aquatic/Game Biologist • Soil Conservationist • State Park Manager

Ornamental Horticulture Pathway

• Introduction to Agriculture • Introduction to Ornamental Horticulture	• Agricultural Biology • Floriculture • Integrated Agricultural Science • Nursery/ Greenhouse Production	• Advanced Ornamental Horticulture • Irrigation and Water Management • Landscape Design and Maintenance • Turf and Golf Management	• Landscape Equipment Operator • Nursery Sales Associate • Tree Trimmer and Pruner	• Floral Designer • Garden Equipment and Supplies Dealer • Landscape Contractor	• Entomologist • Greenhouse and Nursery Manager • Landscape Architect

Plant and Soil Science Pathway

• Introduction to Agriculture	• Agricultural Biology • Integrated Agricultural Science • Plant and Soil Science	• Agricultural Entomology and Pest Control • Crop Science • Environmental Science • Viticulture	• Crop Farmer • Field Assistant • Insect Monitor / Collector	• Field Representative • Tissue Culture Technician • Viticulturist	• Agriculture Association Manager • Integrated Pest Management Specialist • Pest Control Advisor

ARTS, MEDIA, AND ENTERTAINMENT INDUSTRY SECTOR PATHWAY OPTIONS

Media and Design Arts Pathway

• Introduction to Design and Media Arts • Introduction to Digital Graphics • Film and New Media • Introduction to Design	• Two-Dimensional Design • Animation • Internet Publishing • Filmmaking • Computer Graphics • Broadcast Journalism	• Digital Animation • Three-Dimensional Modeling • Video Production • Cinematography • Computer Game Design • Technical Writing • Advertising Art	• Film Loader • Animation Assistant • Makeup Artist • Sign Painter	• Videographer • Prop Maker • Cutter/Fitter/ Seamstress • Special Effects Coordinator • Web Designer	• User Interface Designer • Sound Engineer • Medical and Scientific Illustrator • Scriptwriter • Media and Design Arts Instructor

Performing Arts Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Introduction to Professional Dance	• Instrument Tuning and Repair • Musical Notation • Professional Dance	• Choreography • Professional Theatre • Professional Music Composition • Radio Announcing Apprenticeship	• Disc Jockey • Actor • Announcer • Voice-over Artist • Stunt Double	• Actor • Music Minister • Radio/Television Broadcaster	• Musical Accompanist • Music Director / Conductor • Acoustician • Film Composer • Choreographer

Production and Managerial Arts Pathway

• Introduction to Multimedia Production • Technical Theatre • Introduction to Sound Mixing	• Broadcast Production • Set Design • Television Production	• Stage Production Management • Filmmaking • Sound Engineering and Design	• Third Assistant Director • Focus Puller • Camera Loader • Dolly Grip • Tape/Film Logger	• First Assistant Cameral Operator • Gaffer (Chief Lighting Technician) • Key Production Grip • Script Supervisor • Negative Cutter	• Producer • Line Producer • Sound Design Editor • Visual Effects Coordinator • Second Unit Director

BUILDING TRADES AND CONSTRUCTION INDUSTRY SECTOR PATHWAY OPTIONS

Cabinetmaking and Wood Products Pathway

• Exploring Technology • Technology Core • Wood Technology	• Woodworking 1 • Woodworking 2	• Cabinetmaking • Furniture Design	• Cabinetmaking Apprentice • Machine Operator	• Cabinetmaking Journeyman • CNC Technician	• Cabinetmaking Instructor • Designer • Engineer

Engineering and Heavy Construction Pathway

• Exploring Technology • Technology Core	• Construction 1 • Wood 1	• Equipment Operator • Carpentry	• Apprentice Engineer • Laborer	• Contractor • Electrician • Heavy Construction Journeyman • Iron Worker • Plumber	• Business Owner • Engineer • Engineering and Heavy Construction Instructor

Mechanical Construction Pathway

• Exploring Technology • Technology Core • Construction 1	• Construction 1 • Construction 2	• Building Construction • Electrical Wiring • Plumbing	• Electrician's Helper • Mechanical Construction Apprentice	• Electrician • HVAC Technician • Mechanical Construction Journeyman • Plumber	• Contractor • Engineer • Mechanical Construction Instructor

Residential and Commercial Construction Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Construction 1 • Exploring Technology	• Construction 2	• Carpentry • Construction Technology	• Carpenter Apprentice • Heavy Equipment Operator • Laborer	• Carpenter Journeyman • Contractor • Iron Worker • Surveyor • Welder	• Carpentry Instructor • Engineer

EDUCATION, CHILD DEVELOPMENT, AND FAMILY SERVICES INDUSTRY SECTOR PATHWAY OPTIONS

Child Development Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Child Development and Guidance • Child Psychology	• Careers in Child Development • Careers in Early Childhood Education	• After-School Program Supervisor • Child Care Provider • Family Child Care Supervisor • Infant Caregiver • Preschool Aide	• Head Start Teacher • Parent Educator • Preschool Teacher • Teacher's Aide	• Child Protection Social Worker • Child Psychologist • Children's Library Media Assistant Specialist • Preschool Director • School or Adoption Counselor

Consumer Services Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Consumer Education • Economics for Living	• Careers in Consumer Services • Consumer, Personal, and Financial Services	• Consumer Complaint Clerk • Customer Service Representative • Display Clerk • Product Demonstrator • Shipping and Receiving Clerk	• Consumer Credit Manager • Consumer Products Tester • Insurance Representative • Property Manager • Public Relations Representative	• Certified Financial Planner • Consumer Affairs Director • Consumer Economist • Consumer Information Specialist • Product and Development Researcher

Education Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Human Growth and Development • Psychological Development of Children	• Careers in Education • Teaching and Learning • Teaching Careers	• After-School Program Aide • Child Care Worker • Recreation Aide • Teacher's Aide • Tutor	• Head Start Teacher • Instructional Support Provider • Preschool Director / Supervisor • Special Education Aide • Preschool Teacher	• Elementary, Secondary, or Postsecondary Teacher • School Administrator • School Counselor • Special Education Teacher • Speech and Language Therapist

Family and Human Services Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Family and Human Development • Individual and Family Health	• Careers in Family and Human Services • Elder Care and Intergenerational Services	• Adult Day Care Worker • Elder Care Worker • Homemaker's Aide • Personal/Home Care Aide • Residential Care Aide	• Certified Activities Director • Community Worker • Social Services Technician Aide • Special Needs Case Worker	• Community Organization Director • Elder Care Coordinator • Family Advocate • Group Home Administrator • Residential Care Facility Administrator

ENERGY AND UTILITIES INDUSTRY SECTOR PATHWAY OPTIONS

Electromechanical Installation and Maintenance Pathway

• Exploring Technology • Technology Core	• Drafting • Computer Applications • Consumer Electronics	• A Plus Certification • CAD/CAM • Technical Writing	• Appliance Worker • Electrical Worker • Electronic Equipment Worker • Electronic Utility Worker • Power Meter Reader	• Appliance Repair Technicians • Electrical Technician • Instrument Calibration Repairers • Meter Installers / Repairers • Utility Technicians	• Cabinetmaking Instructor • Designer • Meter Service Engineer

Energy and Environmental Technology Pathway

• Exploring Technology • Technology Core	• Consumer Electronics • Machining • Engine Repair and Maintenance	• Electronic Repair and Maintenance • Electronics • Metal Manufacturing	• Energy Management Worker • Environmental Pollution Worker • Industrial Facilities Worker • Utilities Worker • Waste Management Worker	• Energy Management Technician • Environmental Pollution Technician • Industrial Facilities Technician • Utilities Technician • Waste Management Technician	• Energy Management Engineer • Environmental Pollution Engineer • Industrial Facilities Engineer • Utilities Engineer • Waste Management Engineer

Public Utilities Pathway

• Exploring Technology • Technology Core	• Consumer Electronics • Machining • Environmental Science	• Electronic Repair and Maintenance • Hazardous Materials Management • Metal Manufacturing	• Meter Reader • Power Line Worker • Facility Worker • Waste Management Worker	• Meter Installer • Power Line Technician • Facility Technician • Waste/Sewer Technician	• Meter Design Engineer • Power Grid Engineer • Facilities Design Engineer • Sanitation Engineer

Residential and Commercial Energy and Utilities Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Exploring Technology • Technology Core	• Drafting • Machining Facility • Woods	• CAD/COM • Construction • HVAC Technician	• Electrical Helper • Entertainment System Helper • HVAC Worker • Industrial Maintenance Worker • Solar Helper	• Electrician/ Technician • Entertainment System Technician/ Installer • Facilities Technician • Industrial Maintenance Technician/ Worker • Solar Technician	• Electrical Engineer • Entertainment System Engineer • Facilities/ Maintenance Engineer • Industrial Maintenance Engineer • Solar Engineer

ENGINEERING AND DESIGN INDUSTRY SECTOR PATHWAY OPTIONS

Architectural and Structural Engineering Pathway

• Introduction to CAD • Introduction to Design Drafting • Principles of Engineering • Technology Core	• Architectural Design • Design Drafting • Engineering Technology • Mechanical Drawing • Technical Drafting	• Advanced Architectural Design • Computer-aided Design (CAD/CAM) • Engineering Design	• CAD Technician • Construction Apprentice • Drafting Apprentice • Engineering Aide • Junior Drafter	• Drafter/Designer • Engineering Technician • Estimator • Plan Checker • Surveyor	• Architect • Industrial Designer • Civil Engineer • Structural Engineer • Instructor

Computer Hardware, Electrical, and Networking Engineering Pathway

• Computer Fundamentals • Electricity/ Electronics • Exploring Technology • Technical Core	• Computer and Communications Networking • Computer Systems Design/ Maintenance • Electrical Codes and Systems	• Computer Networking and Administration • Electrical/ Electronic Technology • Essentials of Information Technology (A Plus)	• Apprentice Electrician • Computer Equipment Installer • Computer Repairer • Electrician's Helper • Telecommunications / Security Equipment Installer	• Computer Networking Technician • Computer Technician • Electrician • Journeyman Electrician • Telecommunications Technician	• Computer Engineer • Electrical Engineer • Instructor • Network Administrator • Telecommunications Engineer

Engineering Design Pathway

• Exploring Technology • Introduction to CAD • Introduction to Drafting • Principles of Technology	• Architectural Design • Design Drafting • Engineering Technology • Mechanical Drawing	• Advanced Architectural Design • Computer-aided Design (CAD) • Electrical/ Mechanical Technology • Engineering Design	• CAD Technician • Construction Apprentice • Design/Drafting Apprentice • Engineering Aide • Junior Drafter/ Trainee	• CAD/CAM Specialist • Drafter/Designer • Engineering Technician • Journeyman Drafter	• Architect • Civil Engineer • Industrial Designer • Instructor • Structural Engineer

Engineering Technology Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Exploring Technology • Introduction to Computers • Introduction to Drafting/CADD • Introduction to Electricity/Electronics • Introduction to Engineering Technology • Metal Technology • Technology Core	• Digital Logic Design • Electro-Mechanical Systems • Mechatronics / Robotics	• Electrical/Electronic Technology • Industrial Engineering Technology • Telecommunications	• Apprentice Technician • Electronic Mechanic Helper • HVAC Installer • Telecommunications / Security Equipment Installer	• Electronic Mechanic/ Technician • Facilities Technician • Industrial Electronics Technician • Journeyman Engineer • Telecommunication Technician	• Electrical Engineer • Facilities Maintenance Engineer • Industrial Engineer Instructor • Telecommunications Engineer

Environmental and Natural Science Engineering Pathway

• Essentials of Environmental Engineering • Exploring Technology • Introduction to Computers • Introduction to Drafting/CADD • Principles of Engineering • Technology Core	• Computer Technology • Drafting and Computer-aided Design • Hydrology	• Electrical/Electronic Technology • Environmental Science and Technology • Industrial Engineering Technology • Telecommunications	• Environmental Sampling Assistant • Hazardous Material Removal • Environmental Engineering Aide • Environmental Apprentice	• Environmental Engineering Technician • Environmental Planner Assistant • Environmental Sampling Technician • Journeyman Environmental Engineer • Survey-Mapping Technician	• Environmental Engineer • Environmental Planner • Instructor • Survey-Mapping Engineer

FASHION AND INTERIOR DESIGN INDUSTRY SECTOR PATHWAY OPTIONS

Fashion Design, Manufacturing, and Merchandising Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Fashion, Textiles, and Apparel • Apparel Design and Construction	• Careers in Fashion Design, Manufacturing, and Merchandising • Fashion Merchandising • Apparel Manufacturing and Production • Fashion History and Design	• Sales Associate • Assistant Store Manager • Customer Service Provider • Showroom Assistant • Cutter	• Fashion Illustrator • Visual Merchandiser • Fashion Buyer • Stylist • Sales Representative	• Fashion Designer • Fashion Journalist • Fashion Forecaster • Fashion Merchandise Manager • Operational Manager

Interior Design, Furnishings, and Maintenance Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Environmental Design • Housing and Interior Design	• Careers in Interior Design, Furnishings, and Maintenance • Interior Design	• Retail Sales Associate • Design Assistant • Sales Representative • Trade Intern (various occupations) • Set Decorator	• Visual Merchandiser • CAD Specialist • Facility and Space Planner • Assistant Designer	• Interior Designer • Ergonomic Consultant • Preservationist • Lighting Specialist • Certified Kitchen or Bath Specialist

FINANCE AND BUSINESS INDUSTRY SECTOR PATHWAY OPTIONS

Accounting Services Pathway

• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Keyboarding	• Accounting I & II • Computer Accounting • Record Keeping	• Entrepreneurship • Internship • Virtual Enterprise • Volunteer Income Tax Assistance	• Account Clerk • Audit Clerk • Bookkeeper • Payroll Clerk	• Account Specialist • Cost Estimator • Tax Preparer	• Accountant • Auditor • Budget Analyst • Controller

Banking and Related Services Pathway

• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Keyboarding	• Accounting I & II • Financial Services • Banking • Money and Banking	• Business Law • Business Statistics • Entrepreneurship • Virtual Enterprise	• Account Collector • Bank Teller • Credit Clerk • New Accounts Clerk	• Actuary • Credit Analyst • Customer Service Representative • Loan Specialist	• Appraiser • Bank Manager • Credit Manager • Escrow Officer • Internal Auditor

Business Financial Management Pathway

• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Business	• Accounting • Financial Occupations • Insurance Services • Marketing • Stocks, Bonds, and Investments	• Business Statistics • Entrepreneurship • Financial Management • Virtual Enterprise	• Claims Clerk • Collector • Insurance Appraiser	• Claims Examiner • Tax Examiner • Treasurer • Underwriting Assistant	• Budget Analyst • Economist • Finance Director • Financial Planner • Securities Manager

HEALTH SCIENCE AND MEDICAL TECHNOLOGY INDUSTRY SECTOR PATHWAY OPTIONS

Biotechnology Research and Development Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Introduction to Health Careers I • Introduction to Health Careers II	• Introduction to Biotechnology I • Medical Terminology • Structure and Function	• Biotechnology Assistant • Biotechnology Technician • Introduction to Biotechnology II	• Biotechnology Assistant	• Biomedical Technician • Biotechnology Technician • Quality Assurance/ Control Technician	• Bioinformatics Specialist • Biomedical Chemist • Biostatistician • Biotechnology Scientist • Clinical Trials Researcher

Diagnostic Services Pathway

• Hospital Occupations • Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Imagery I	• Health: Biological Structure and Function • Medical Terminology	• Bioengineering Assistant • Medical Laboratory Assistant • Radiology Assistant	• Medical Laboratory Aide • Transporter	• Biotechnology Engineer • Cardiology Technologist • Medical Laboratory Assistant • Medical Laboratory Technician • Radiology Technologist	• Biotechnology Scientist • Clinical Medical Technologist • Geneticist • Radiologist

Health Informatics Pathway

• Computer Technology • Hospital Occupations • Introduction to Health Careers I • Introduction to Health Careers II	• Health: Biological Structure and Function • Medical Terminology	• Insurance Billing • Medical Coding • Medical Transcription • Skill-specific Health Informatics	• Health Unit Coordinator • Medical Coder • Medical Records Clerk • Medical/Hospital Receptionist	• Medical Record Technician • Medical Transcriptionist • Telehealth Technician	• Health Educator • Health Services Administrator • Hospital/Nursing Home Administrator • Medical Librarian

Support Services Pathway

• Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Hospital Occupations	• Medical Terminology • Structure and Function	• Hospital Support Services • Maintenance and Supply Technician • Medical Transporter	• Central Supply Aide • Environmental Services Assistant	• Central Supply Technician • Environmental Services Technician • Mortician	• Environmental Health Specialist • Health Educator • Industrial Hygienist • Materials management Supervisor • Nursing Home Administrator

Therapeutic Services Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Introduction to Health Careers I • Introduction to Health Careers II • Introduction to Hospital Occupations	• Hospital Occupations II • Medical Terminology • Structure and Function	• Certified Nursing Assistant • Dental Assistant • Emergency Medical Technician • Medical Assistant	• Certified Nurses Assistant • Emergency Medical Technician • Medical Assistant • Physical Therapy Aide • Respiratory Therapy Aide	• Dental Hygienist • Fitness/Aerobics Instructor • Licensed Vocational Nurse/Registered Nurse • Pharmacy Technician • Registered Physical Therapy Aide	• Dentist • Exercise Physiologist • Pharmacist • Physical Therapist • Physician Assistant

HOSPITALITY, TOURISM, AND RECREATION INDUSTRY SECTOR PATHWAY OPTIONS

Food Science, Dietetics, and Nutrition Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Food for Health and Fitness • Food Science (Chemistry of Foods) • Food Technology and Nutrition	• Careers in Food Science, Dietetics, and Nutrition • Food Science and Dietetics	• Dietary Aide • Food Laboratory Aide • Food Product Tester • Quality Control Technician • Test Food Kitchen Assembler	• Dietetic Technician • Food Inspector • Food Production Chemist • Personal Chef • Test Kitchen Chef	• Food Journalist/ Technical Writer • Food Product Developer • Food Scientist • Food Technologist • Registered Dietician

Food Service and Hospitality Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Food, Nutrition, and Meal Management • Food and Nutrition • Nutritional Science	• Careers in Food Service and Hospitality (Culinary Arts) • Food and Beverage Production	• Baker Helper • Food Expediter • Line Cook • Pastry Chef Assistant • Wait Staff	• Caterer • Chef • Food Designer • Food Service Manager • Pastry Chef	• Food and Beverage Analyst • Food Service Director • Food Stylist • General Manager • Sous/Executive Chef

Hospitality, Tourism, and Recreation Pathway

• Home Economics Careers & Technology Comprehensive Core I • Home Economics Careers & Technology Comprehensive Core II	• Introduction to Hospitality and Tourism • Introduction to the Lodging Industry • Introduction to Travel and Tourism • Principles of Event Planning	• Attractions, Events, and Related Services • Careers in Hospitality, Tourism, and Recreation • Lodging and Hotel Operations • Travel-related Services	• Camp Counselor • Front-Desk Worker • Host/Hostess/ Wait Staff • Recreation Leader • Spa Attendant	• Club Professional or Manager • Concert Promoter • Event/Wedding Planner • Flight Attendant • Specialty Cook	• Club/Resort/Hotel Manager • Convention Coordinator • Theme Park Director • Travel Company Owner/Manager

INFORMATION TECHNOLOGY INDUSTRY SECTOR PATHWAY OPTIONS

Information Support and Services Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Business Communication • Computer Applications • Keyboarding	• Office Technology	• Microsoft Office Specialist Certification	• Administrative Assistant • Help Desk Support Technician • Word Processing Operator	• Desktop Publisher • Information Systems Specialist • Database Administrator • Technical Writer	• Software Engineer • Information Systems Architect • IT Manager/Director • Business Teacher

Media Support and Services Pathway

• Computer Application • Introduction to Business • Introduction to Desktop Publishing	• Desktop Publishing • Web Design	• Multimedia and Image Management • Advanced Web Design	• Computer Operator • Production Technician • Web Page Developer	• Computer Graphic Artist • Desktop Publisher • Multimedia Specialist • Web Designer • Webmaster	• Graphic Designer • Multimedia Artist • Multimedia Producer • Web Architect • Corporate Communications Manager

Network Communications Pathway

• Keyboarding • Computer Applications	• Advanced Computer Operations • Network Systems I	• Network Systems II	• Network Systems Assistant • Network Systems Technician	• Software/Hardware Installer • Telecommunications Specialist • Network Administrator • Data Communications Specialist	• Network Administrator • Network Engineer • Network Manager/ Director • Project Manager • Computer Security Specialist

Programming and Systems Development Pathway

• Computer Applications • Exploratory Business • Introduction to Programming	• Computer Programming • Programming and Software Development • Java Programming • Visual Basic Programming	• Advanced Programming • AP Computer Science • Game Programming	• Programmer • Software Applications Support • Software Technician	• Programmer • Software Applications Reporting • Software Documentation Specialist	• Chief software Architect • Computer Software/ Hardware Engineer • Manager of Software Development • Operating Systems Designer • Software Architect

MANUFACTURING AND PRODUCT DEVELOPMENT INDUSTRY SECTOR PATHWAY OPTIONS

Graphic Arts Technology Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Drafting • Exploring Technology • Orientation to Graphic Arts Apprenticeship • Technology Core	• Communications Technology • Graphic Arts/ Communications • Photography Laboratory	• Commercial Photography • Composition, Lithography, and Platemaking • Composition, Makeup, and Typesetting • Desktop Publishing	• Desktop Publisher • Graphic Art Equipment Operator • Network Installer • Pre-Press Designer • Graphic Arts Apprentice	• Commercial Photographer • Production Manager • Network Administrator • Graphic Artist (Journeyman)	• Publisher, Editor • Product Developer • Industrial technology Educator • Network Engineer • Graphic Designer

Integrated Graphics Technology Pathway

• Drafting/ Communications • Exploring Technology • Graphic Arts • Graphic Communications Apprenticeship Awareness • Technology Core	• Communications Technology • Graphic Communications • Graphic Communications Apprenticeship Explorations • Photography Laboratory • Video Production	• Animation • Broadcasting Production • Multimedia • Orientation to Graphic Communications Apprenticeship	• Desktop Publisher • Special Effects Animator • Special Effects Apprentice • Video Graphics Helper • Web Designer	• Advertising Design • Multimedia/Digital Editor • Special Effects Editor • Special Effects Journeyman • Webmaster	• Industrial and Technology Educator • Multimedia Author • Multimedia/Digital Producer • Publications Management • Special Effects Engineer

Machine and Forming Technology Pathway

• Drafting • Exploring Technology • Metalworking • Orientation to Machine and Forming Apprenticeship • Technology Core	• Ironworking • Machine Shop • Manufacturing I • Plastics/ Composites • Sheet Metal	• Foundry/Metallurgy • Machine Tool Operations • Manufacturing II • Plastics/Composites	• Assembler • Electro-Mechanical Helper • Installation Apprentice • Machine Operator • Maintenance Mechanic	• CNC Programmer • Industrial Electrician • Machine Technician • Manager • Tooling Journeyman	• Design Engineer • Industrial Technology Educator • Manufacturing Engineer • Mechanical Engineer • Tooling Engineer

Welding Technology Pathway

• Exploring Technology • Metalworking • Orientation to Welding Apprenticeship • Technology Core • Welding Fundamentals	• Manufacturing/ Materials Processing • Technical Drafting • Welding Fabrication, Ironworking • Welding-Combination I • Welding-Electrical	• Computer-aided Drafting (CAD) • Computer-aided Manufacturing (CAM) • Foundry • Welding-Combination II • Welding-Specialized	• Cutter, Solder, Brazier • Foundry Helper • Plastics Assembler • Welder • Welding Apprentice	• Boilermaker • Certified Welder • Composite Fabricator • Foundry Core, Pattern Maker • Welding Journeyman	• Fabrication Designer • Industrial Technology Educator • Manufacturing Engineer • Pressurized Vessel Engineer • Quality Control Inspector

MARKETING, SALES, AND SERVICE INDUSTRY SECTOR PATHWAY OPTIONS

E-Commerce Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Marketing • Keyboarding	• Accounting • Advanced Computer Applications • Business Management • E-Commerce Marketing • Finance • Principles of Marketing • Retail Marketing • Web Design	• International Business • Virtual Enterprise	• Administrative Support Representative • Customer Service Representative • Customer Support Specialist	• Account Supervisor • Copywriter-Designer • E-Commerce Marketing Specialist • Forum Manager	• Brand Manager • E-Commerce Director • E-Commerce Entrepreneur • Interactive Sales Engineer • Business Teacher

Entrepreneurship Pathway

• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Marketing • Keyboarding	• Accounting • Business Management • Finance • Principles of Marketing • Retail Marketing	• Entrepreneurship • Virtual Enterprise	• Customer Service Representative • Small Business Entrepreneur	• Franchisee • Marketing Manager • Regional Sales Manager • Retail/Wholesale Buyer	• Account Executive • Business Teacher • Chief Executive Officer • National Account Manager

International Trade Pathway

• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Marketing • Keyboarding	• Accounting • Business Management • Finance • Principles of Marketing • Retail Marketing	• International Business • Virtual Enterprise	• Sales Representative • Shipping and Receiving Clerk • Stocking and Handling Worker	• Route Salesperson • Warehouse Manager	• Economist • International Distribution Manager • International Trade Specialist • Marketing Research Analyst • Wholesale Distribution Manager

Professional Sales and Marketing Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Business Communication • Computer Applications • Exploratory Business • Financial Literacy • Introduction to Marketing • Keyboarding	• Accounting • Business Management • Finance • Principles of Marketing • Retail Marketing	• Entrepreneurship • Virtual Enterprise	• Customer Service Representative • Small Business Entrepreneur • Telemarketer	• Franchisee • Marketing Manager • Regional Sales Manager • Retail/Wholesale Buyer	• Account Executive • Business Teacher • Chief Executive Officer • National Account Manager

PUBLIC SERVICE INDUSTRY SECTOR PATHWAY OPTIONS

Human Services Pathway

• Conflict Resolution • Introduction to Human Services	• Principles of Recovery and Psychosocial Rehabilitation • Recovery and Special Populations	• Helping Relationships • Psychosocial Rehabilitation Worker Field Experience	• Case Manager Aide • Child Care Aide • Foster Care Worker • Mental Health Aide • Youth Worker	• Licensed Psychiatric Technician • Mental Health Worker • Residential Counselor • Social Service Coordinator • Substance Abuse Counselor	• Family Social Service Worker • Licensed Clinical Social Worker • Marriage and Family Therapist • Mental Health Rehabilitation Specialist

Legal and Government Services Pathway

• Constitutional Law A and B	• Criminal Justice/ Policies and Procedures	• Criminal Law/ International Law	• Elected Official	• Legal Clerk • Paralegal	• Attorney • Diplomatic Service

Protective Services Pathway

• Fire Science I • Police Science	• Fire Science II Forensic Science	• Fire Internship • Law Enforcement Internship	• Animal Control Officer • Armed Forces Police Officer • Emergency Medical Technician • Parking Enforcement Officer • Security Guard	• Corrections Officer • Crime Scene Technician • Criminal Investigator • Firefighter • Paramedic • Police Officer • Private Investigator • U.S. Customs Officer	• ATF Agent • DEA Agent • FBI Agent • Federal Marshal • Fire Captain/Chief • Police Lieutenant/ Captain/Chief

TRANSPORTATION INDUSTRY SECTOR PATHWAY OPTIONS

Aviation and Aerospace Transportation Services Pathway

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
• Small Engines • Exploring Technology • Technology Core • Basic Automotive	• Electronics • Auto 1	• Avionics • Radio Communications • Aviation Aircraft Engines	• Ground Support Crew • Mechanic's Assistant • Flight Attendant • Porter • Apprentice/Intern • Aircraft Detailer	• Military Ground Crew • Airframe and Power Plant Technician • Maintenance Worker • Ramp Service Worker • Dispatcher	• Engineer • Astronaut • Instructor • Pilot

Collision Repair and Refinishing Pathway

• Introduction to Automotive Technology • Small Engines	• Basic Collision Repair • Basic Auto Refinishing • Automotive Construction • Steering and Suspension • Auto 1	• Advanced Collision Repair Technology • Advanced Auto Refinishing	• Collision Repair Intern or Apprentice • Refinisher Helper • Auto Detailer	• Collision Repair Technician • Collision Repair Shop Owner • Auto Refinish Technician • Auto Glass Installer • Assistant Manager	• Insurance Claims Adjuster • Collision Shop Manager • Instructor • Paint Manufacturer Representative

Vehicle Maintenance, Service, and Repair Pathway

• Introduction to Automotive Repair • Small Engines • Technology Core • Exploring Technology	• Brakes • Electrical Systems and Electronics • Steering and Suspension • Outdoor Power Equipment • Auto Fundamentals	• Advanced Automotive • Engine Performance/ Smog • Motorcycle • Diesel	• Porter/Lot Person • Lube Technician • Aftermarket Sales Representative • Vehicle Maintenance Intern or Apprentice • Parts and Service Counter Person • Salesperson • Vehicle Maintenance Technician	• Line Technician • Service Writer • Motor Carrier • Technical Writer • Smog Technician • Driver • Inspector	• Fleet Manager or Director • Shop Foreman or Forewoman • Parts and Service Manager • Instructor • Manufacturer's Representative

Use With High-Quality Element Six

Corrective Action Plan Timeline

The corrective action plan (CAP) outlines the actions necessary to be taken by ROCPs and community colleges to come into full compliance with statues related to course sequences (1/3 by 2009-10 and 2/3 by 2010-2011) funded under Carl D. Perkins. Those rural ROCPs and community colleges who have received a waiver form the Superintendent of Public Instruction are exempt from developing a CAP. The CAP includes, at a minimum, the following information:

- Explanation of progress made to date in developing course sequences.
- Identification of what actions will need to be taken by each educational segment to bring program into compliance. Indicate the date by which full compliance will be achieved.
- Identification of barriers that prevented or contributed tot he failure to develop courses sequences and to meet the established deadline.
- Indication of actions that will be taken by the Employer Advisory Board (EAB), the governing boards of school districts, the ROCP and the community college districts to resolve barriers or remediate issues that may have contributed to the failure to meet this section of the statute.
- Other information the LEA deems relevant to mitigate the findings.
- Submit the CAP to CDE within 90 calendars days of receipt of the written determination of non-compliance.
- The CAP must be signed by authorized representatives of the District or County Office of Education as appropriate, the High School, the ROCP, and the participating Community College.
- Once a CAP is entered into by the LEA/community college with CDE, no federal Carl D. Perkins funds will be apportioned to that LEA or community college until the conditions of the CAP are met to the satisfaction of CDE.

Back to: 49 53 54

Use With High-Quality Element Six

ROP/CTE Career Plan Form

Santa Clara County
REGIONAL OCCUPATIONAL PROGRAM

ROP/CTE CAREER PLAN
(To be added to student's comprehensive high school plan)

Name: _____

Date of Birth: _____

Student I.D. #: _____

School Site: _____

Ed Code Section 52314(b):
A pupil is not eligible to be admitted to a regional occupational center or program, and his or her attendance shall not be credited to a regional occupational center program until he or she had attained the age of 16 years, unless the pupil meets one or more of the following conditions; **(2)** The pupil received a referral and all of the following conditions are met; **(A)** The approval of the pupil's parents or guardian may be sought, but is not required; **(B)** The pupil's comprehensive high school plans requires referral to a regional occupational center or program as part of a sequence of vocational courses that allows the pupil to learn a comprehensive skill occupation that culminates in earning a postsecondary vocational certificate or diploma or its equivalent; and **(C)** The pupil is enrolled in a school that maintains any of grades 9-12 inclusive.

Freshman Review

Career Pathway:

ROP/CTE Recommended Courses	Grade 9	**Grade 10**	**Grade 11**	**Grade 12**

☐ The above will prepare me for my present career goal, which is: _____ and will allow me to obtain a postsecondary vocational certificate or diploma or its equivalent.

☐ The above ROP course(s) are being recommended as part of the student's selected career pathway.

_____ _____
Student's Signature Date Parent/Guardian's Signature **(optional)** Date

_____
Counselor/Administrator's Signature Date

FILE COPIES
☐ **Student**
☐ Counselor
☐ **District ROP/CTE Office**
☐ **Other:** _____

Sophomore Review

Career Pathway:

ROP/CTE Recommended Courses	Grade 9	**Grade 10**	**Grade 11**	**Grade 12**

☐ My career plans have not changed.

☐ My plans have changed and my new career plan is: _____ which will allow me to obtain a postsecondary vocational certificate or diploma or its equivalent.

☐ The above ROP course(s) are being recommended as part of the student's selected career pathway.

_____ _____
Student's Signature Date Parent/Guardian's Signature **(optional)** Date

_____
Counselor/Administrator's Signature Date

FILE COPIES
☐ **Student**
☐ Counselor
☐ **District ROP/CTE Office**
☐ **Other:** _____

Use With High-Quality Element Six

ROP/CTE Career Plan Form

(continued)

Junior Review | **Career Pathway:**

ROP/CTE Recommended Courses	Grade 9	**Grade 10**	**Grade 11**	**Grade 12**

☐ My career plans have not changed.

☐ My plans have changed and my new career plan is: _____ which will allow me to obtain a postsecondary vocational certificate or diploma or its equivalent.

☐ The above ROP course(s) are being recommended as part of the student's selected career pathway.

_____ _____

Student's Signature Date Parent/Guardian's Signature **(optional)** Date

_____ _____

Counselor/Administrator's Signature Date

FILE COPIES

☐ **Student**
☐ Counselor
☐ **District ROP/CTE Office**
☐ **Other:** _____

Senior Review | **Career Pathway:**

ROP/CTE Recommended Courses	Grade 9	**Grade 10**	**Grade 11**	**Grade 12**

☐

☐ My career plans have not changed.

☐ My plans have changed and my new career plan is: _____ which will allow me to obtain a postsecondary vocational certificate or diploma or its equivalent.

The above ROP course(s) are being recommended as part of the student's selected career pathway.

_____ _____

Student's Signature Date Parent/Guardian's Signature **(optional)** Date

_____ _____

Counselor/Administrator's Signature Date

FILE COPIES

☐ **Student**
☐ Counselor
☐ **District ROP/CTE Office**
☐ **Other:** _____

Use With High-Quality Element Nine

Comparison of New CTE Teacher Credential Requirements with Previous Requirements

Preliminary Credential Requirements

New	Previous
1. Preliminary credential valid for 3 years.	1. Preliminary credential valid for 5 years.
2. High school diploma or the equivalent.	2. High School diploma or the equivalent.
3. Recommendation from an approved program sponsor.	3. Recommendation from an approved program sponsor or the employer.
4. Three years work experience or equivalent, including certifications or licenses.	4. Five years work experience or the equivalent.
5. One year recent work experience in the last five years or two years work experience in the last ten years.	5. One year recent work experience in the last three years.
6. Advanced Industry Certification would qualify as work experience, thereby reducing the number of years required.	6. Advanced industry certification does not qualify as work experience.
* *Moved to clear credential requirement*	7. College-level course work or examination on the U.S. Constitution.

Clear Credential Requirements

New	Previous
1. Possession of a valid preliminary credential.	1. Possession of a valid preliminary credential.
2. Four successful teaching terms or two successful terms of teaching and an advanced preparation program or the equivalent.	2. Four successful teaching terms.
3. Completion of the preliminary CTE teacher preparation program.	3. Completion of Level I and II teacher preparation (a total of 180 hours or 12 semester units).
4. Expand the options for completing the Level II preparation to include National Board Certification, district sponsored teacher development programs, induction, mentoring, or documentation of successful teaching.	4. Total of 180 hours or 12 semester units is the only option allowable to earn the clear credential.
5. Health education would continue to be a part of the clear credential program.	5. One unit of health education.
6. College-level course work or examination on the U.S. Constitution.	

Back to: 63 66 67

Use With High-Quality Element Nine

IMPLEMENTATION OF SENATE BILL 280

Commission on Teacher Credentialing: Coded Correspondence
Date: December 19, 2007 **Number:** 07-24

Summary:
SB280 (Chap. 145, Stats, 2007) was signed by the Governor on October 12, 2007. One provision of the bill pertains to options to earn and the requirement to hold an English learner (EL) authorization for designated subjects vocational/career technical education and special subjects teaching credentials and service credentials with a special class authorization.

Other changes in SB280 will be addressed in a separate Commission correspondence.

Key Provisions:
SB280 states that holders of designated subjects vocational/career technical education and special subjects teaching credentials and service credentials with a special class authorization may complete the staff development required to earn a Certificate of Completion of Staff Development (CCSD). The *Williams* settlement brings a renewed focus to the requirement that all teachers providing instructional services to English learner students hold an appropriate English learner authorization. Students identified in California K-12 public schools are required to receive services designated to meet their linguistic and academic needs based on assessments made by the local employing agency. When instructional services are needed to ensure success in English and or academic content, an appropriately authorized teacher responsible for the content instruction is required. State laws do not provide exemptions for a subject area, setting, or particular number of Els needing service in a class including designated subjects/career technical education classes. The exception previously listed in EC 44253.11 which allowed 'teachers in training' pursuing training to earn a CCSD to be considered appropriately assigned to serve Els, while in this training, was removed from statute and no longer exists.

Important Date:
Provisions of SB280 take effect on January 1, 2008.

Background:
SB1292 (Chap. 752, Stats. 2006) added section 44253.11 to the Education Code to allow specific credential holders an alternative pathway to earn a CCSD to provide Specially Designed Academic Instruction delivered in English (SDAIE) to English learners.

Source:
Education Code §44253.11

Back to: 63 66 67

Use With High-Quality Element Nine

CDE Policy Pertaining to CTE Teachers Meeting the Highly Qualified Teacher Provision of NCLB

By
Dr. Lloyd McCabe, Policy Consultant
Office of the Director
Secondary, Postsecondary & Adult Leadership Division
California Department of Education
(916) 445-1710

Please be advised that if a district has a policy that allows for alternative ways in meeting high school graduation requirements via *Ed Code Section* 51225.3(b), then a CTE instructor can teach a CTE course that meets a mandated academic requirement provided they are properly credentialed in their respective CTE discipline.

Section 51225.3(b) provides an alternative method for meeting high school graduation requirements: *"The governing board, with the active involvement of parents, administrators, teachers, and pupils,* ***shall adopt alternative means for students to complete the prescribed course of study*** *which may include practical demonstration of skills and competencies, supervised work experience or other outside school experience, career technical education classes offered in high schools, courses offered by regional occupational centers and programs, interdisciplinary study, independent study, and credit earned at a postsecondary institution. Requirements for graduation and specified alternative modes for completing the prescribed course of study shall be made available to pupils, parents, and the public."*

District officials may ask about credential authorization for such a CTE class. Please be advised that the California Commission on Teacher Credentialing has ruled repeatedly that if a class is a CTE-based class and the school district has a policy that allows granting graduation credits to the class per *EC Section* 51225.3(b*),* then it may be taught by the holder of a credential authorizing the teaching of CTE.

In terms of the "highly qualified teacher" provision of NCLB. The CDE has established policy that if a CTE course is an alternative way to meet graduation requirements via *Ed Code Section* 51225.3(b); and the teacher has a four-year college degree and is properly credentialed (Designated Subject, or Single Subject, or Standard Secondary) in their career technical education discipline; that this teacher would meet the "highly qualified teacher" provision - whether "New" or "Not New." For further information on this matter, please contact the NCLB Coordinator - Lynda Nichols at: lnichols@cde.ca.gov

3-28-07
Rev. DJG

Back to: 63 66 67

Use With High-Quality Element Nine

California Standards for the Teaching Profession

"The *California Standards for the Teaching Profession* provide a common language and a vision of the scope and complexity of teaching by which all teachers can define and develop their practice. The Standards are to be used by teachers to prompt reflection about teaching and learning; develop professional goals; and guide, monitor, and assess the progress of teachers' practice toward professional goals. The Standards address the diversity of the student population in California schools today and reflect a holistic, developmental view of teaching."

1.0 STANDARD FOR ENGAGING AND SUPPORTING ALL STUDENTS IN LEARNING

- Teachers build on students' prior knowledge, life experience, and interests to achieve learning goals for all students.
- Teachers use a variety of instructional strategies and resources that respond to students' diverse needs.
- Teachers facilitate challenging learning experiences for all students in environments that promote autonomy, interaction and choice.
- Teachers actively engage all students in problem solving and critical thinking within and across subject matter areas.
- Concepts and skills are taught in ways that encourage students to apply them in real-life contexts that make subject matter meaningful.
- Teachers assist all students to become self-directed learners who are able to demonstrate, articulate, and evaluate what they learn.

2.0 STANDARD FOR CREATING AND MAINTAINING EFFECTIVE ENVIRONMENTS FOR STUDENT LEARNING

- Teachers create physical environments that engage all students in purposeful learning activities and encourage constructive interactions among students.
- Teachers maintain safe learning environments in which all students are treated fairly and respectfully as they assume responsibility for themselves and one another.
- Teachers encourage all students to participate in making decisions and in working independently and collaboratively.
- Expectations for student behavior are established early, clearly understood, and consistently maintained.
- Teachers make effective use of instructional time as they implement class procedures and routines.

3.0 STANDARD FOR UNDERSTANDING AND ORGANIZING SUBJECT MATTER FOR STUDENT LEARNING

- Teachers exhibit strong working knowledge of subject matter and student development.
- Teachers organize curriculum to facilitate students' understanding of the central themes, concepts, and skills in the subject area.

Back to: 62 67

- Teachers interrelate ideas and information within and across curricular areas to extend students' understanding.
- Teachers use their knowledge of student development, subject matter, instructional resources, and teaching strategies to make subject matter accessible to all students.

4.0 STANDARD FOR PLANNING INSTRUCTION AND DESIGNING LEARNING EXPERIENCES FOR ALL STUDENTS

- Teachers plan instruction that draws on and values students' backgrounds, prior knowledge, and interests.
- Teachers establish challenging learning goals for all students based on student experience, language, development, and home and school expectations.
- Teachers sequence curriculum and design long-term and short-range plans that incorporate subject matter knowledge, reflect grade-level curriculum expectations, and include a repertoire of instructional strategies.
- Teachers use instructional activities that promote learning goals and connect with student experiences and interests.
- Teachers modify and adjust instructional plans according to student engagement and achievement.

5.0 STANDARD FOR ASSESSING STUDENT LEARNING

- Teachers establish and clearly communicate learning goals for all students.
- Teachers collect information about student performance from a variety of sources.
- Teachers involve all students in assessing their own learning.
- Teachers use information from a variety of ongoing assessments to plan and adjust learning opportunities that promote academic achievement and personal growth for all students.
- Teachers exchange information about student learning with students, families, and support personnel in ways that improve understanding and encourage further academic progress.

6.0 STANDARD FOR DEVELOPING AS A PROFESSIONAL EDUCATOR

- Teachers reflect on their teaching practice and actively engage in planning their professional development.
- Teachers establish professional learning goals, pursue opportunities to develop professional knowledge and skill, and participate in the extended professional community.
- Teachers learn about and work with local communities to improve their professional practice.
- Teachers communicate effectively with families and involve them in student learning and the school community.
- Teachers contribute to school activities, promote school goals and improve professional practice by working collegially with all school staff.
- Teachers balance professional responsibilities and maintain motivation and commitment to all students.

Use With High-Quality Element Ten

Types of Assessment and Scoring Tools

Summative Assessments

Assessments ***of*** learning are those assessments that happen after learning is supposed to have occurred to determine if it did. They are used to make statements of student learning status at a point in time to those outside the classroom, as when making student referrals or making decisions about programs. State assessments, local standardized tests, and college admissions tests represent external examinations that do this. But we also conduct assessment ***of*** learning within the classroom when we gather evidence to determine a student's report card grade. Unit final exams and important projects often serve this purpose.

Formative Assessments

Assessments ***for*** learning happens while learning is still underway. These are the assessments that we conduct throughout teaching and learning to diagnose student needs, plan our next steps in instruction, provide students with feedback they can use to improve the quality of their work, and help students see and feel in control of their journey to success. Each one reveals to students increments of achievements and how to do better the next time. On these occasions, the grading function is laid aside. This is not about accountability–those are assessment ***of*** learning. This is about getting better.

Typical Assessments Students Encounter in California (Summative Assessments)

1. Criterion- or Standards-Referenced Tests and Tasks
   Assessments that compare student's knowledge to a defined mastery level of the standard. Examples include Industry-developed certification exams and the STAR test.

2. Content Standards Assessments
   Appropriate tests for the core academic standards and CTE foundation and pathway standards. Examples include STAR test, teacher developed standards tests, and projects with rubrics.

3. Benchmarks
   Teacher/school/district developed assessments to measure student progress on the identified standards (foundation, career pathway).

4. Norm-Referenced Tests
   Assessments that compare students to other students with the most proficient students receiving the highest scores. Not conducive for assessing standards-based concepts.

5. Comparative or Pre-and Post-Tests
   Assessments given before and after instruction of a concept or group of concepts. Used to measure student progress by comparing the score of the pre-test to the score of the post-test.

Objective Assessments (Summative Assessments)

1. Traditional Multiple Choice, True-False, Matching, and Similar Types of Test Items in Written Exams
   Assessments used when a body of knowledge must be learned and applied.

2. Oral Exams
   One-on-one testing where students are given a question and must answer the question aloud.

3. Credentialing or Licensing Exams
   Assessments can be norm-referenced, criterion-referenced, or standards-based and may be administered in a written, oral, or performance-based mode.

4. Certain Performance Tasks
   Assessments that reflect a right-wrong response. For example, the ledger either balances or does not, the small engine either runs or not, etc. These assessments may also be used for complex tasks that is divided into several parts and the student is assessed on each part using the "right-wrong"

response.

Subjective Assessment (Formative Assessments)

1. Juried Exhibits, Reviews and Performances
   Assessment that is "scored" by a panel of experts. For example, a dance, livestock, gallery showings are all scored by a panel of experts.

2. Observations of Field Work or Internship
   Used in CTE work-based learning assignments, this is an evaluation of an individual by the supervisor at the work-site and the school's work-based supervisor.

3. Performance-Based Assessment
   Assessment on a performance task or project designed by the instructor. The instructor creates a rubric that details the mastery level for each standard.

4. Review of Portfolio or Journal
   The review of a student's portfolio or journal by the instructor, reviewing the materials and assessing the quantity and quality of the work according to a published rubric.

5. Review of Final Project
   The assessment of a final project, evaluated using a rubric. The assessor evaluates the student's standards mastery, as demonstrated by the quality of the project.

Self- or Peer Assessment (Formative Assessments)

1. Self Assessment
   Students self-assess a product at preliminary and final stages, using rubrics and exemplars to help them make accurate judgments.

2. Peer Assessment
   Assessment of a student's project, demonstration, report, etc., by fellow students using a rubric or exemplar.

Authentic and Project-Based Assessment (Formative Assessments)

1. Authentic Assessment
   "Real world" assessment allows students to measure their skills against the benchmarks used in business and industry, performing the tasks in the industry setting or in a simulation of industry environments.

2. Project-Based Assessment
   "Real world" assessment allows students to measure their skills against the benchmarks used in business and industry, however, the assessment takes place in the classroom or lab setting.

Industry-Based Assessment (Formative Assessments)

1. Apprenticeship
   When placed in an on-the-job training program, the student's competency is assessed through observation and interaction.

2. Industry Certification Examinations
   An industry exam designed to help employers identify competent individuals in the field. These assessments may be offered privately, through independent professional organizations, and/or through state-certified organizations.

Summary of the *Career Technical Education Framework for California Public Schools*, pages 53-57

Use With High-Quality Element Ten

BENCHMARK ASSESSMENT FOR CAHSEE ELA STANDARDS

AUTOMOTIVE SERVICE COURSE

Vocabulary Development **Score**

Student Name: _____ **Teacher:** _____

Directions: Read the newspaper article about electric cars then answer the vocabulary questions. Circle the correct answer then write the letter of your answer on the answer sheet.

ELECTRIC CARS DESERVE A SECOND LOOK

As the world becomes increasingly populated, it is also becoming alarmingly polluted. We deplete more resources, produce more waste, and cause more cumulative environmental strain than ever before.

Fortunately, there are many ways that you can help counter the negative effects that we impose on the environment. One of these is driving an electric car. This benefits not only the environment, but also individual drivers.

Electric cars produce about 80 percent less pollution than cars with gas-powered motors. In fact, the only reason that electric cars produce any pollution at all is that their electric energy is generated by power plants–electric cars themselves emit no exhaust. When energy comes from large sources such as power plants, it's easier to regulate and monitor, so there's less waste than if the energy is generated by many smaller sources, such as the gas engines in individual cars.

In addition, electric cars are simply more effective than gas-powered cars for several reasons. First, electric cars have regenerative braking, which means that when you use the brakes in an electric car, the battery has a chance to recharge. Conversely, when you brake in a gas-powered car, you actually use energy.

Also, during the production of electric cars, more time and energy is spent making the design lighter and more aerodynamic so that there will be less drag from the wind. This allows them to travel farther using less energy than a gas-powered car would use to go the same distance.

In addition to the environmental benefits of driving electric cars, there are also financial and time-saving benefits for the drivers

For one, they cost less to maintain. The cost of charging an electric car is about 20 percent of the cost of gas, and electric cars require far less maintenance than gas-powered cars. This is due, in part, to the fact that a lot of the things that go wrong with gas-powered cars simply aren't present in electric cars. Electric cars have no cooling system, fan belts, radiators, hoses, or oil–just a battery. There are fewer moving parts over all, so there are fewer potential problems. Also, electric motors have far greater longevity than combustion motors, so after the body of an electric car gives out, the engine can be reused in another body.

Furthermore, the federal government is encouraging electric car use by giving significant rebates for purchasing electric cars, and some states offer additional rebates.

Electric cars can also save people time. While gas-powered cars require visits to a mechanic every few months, the only routine maintenance required by electric cars is replacing the battery every four years. And California, for example, recently passed a law making it legal for drivers of electric cars to use the carpool lanes any time–even if they are driving alone. This makes your trips much quicker and saves a considerable amount of time, especially in rush-hour traffic.

Overall, there are numerous benefits of driving an electric car. It may take a little getting used to, but in the long run, the use of electric cars can preserve the environment and give people more time and money to be put to better use.

1. **R – 1.1**

Read this sentence from the article.

Furthermore, the federal government is encouraging electric car use by giving significant **rebates** for purchasing electric cars, and some states offer additional rebates.

What is the meaning of the word *rebates*?

A. additional guarantees
B. tax credit
C. awards
D. money returned

2. **R – 1.1**

Read this sentence from the article.

We **deplete** more resources, produce more waste, and cause more cumulative environmental strain then ever before.

What is the meaning of the word *deplete*?

A. store away
B. use up
C. own
D. ruin

3. **R – 1.1**

Read this sentence from the article.

Also, electric motors have far greater **longevity** than combustion motors, so after the body of an electric car gives out, the engine can be reused in another body.

What is the meaning of the word *longevity*?

A. long lived
B. longing
C. wishful thinking
D. better motors

4. **R – 1.1**

Read this sentence from the article.

While gas-powered cars require visits to a mechanic every few months, the only **routine** maintenance required by electric cars is replacing the battery every four years.

What is the meaning of the word *routine*?

A. route
B. every now and then
C. regular
D. on time

5. **R – 1.1**

Read this sentence from the article.

In fact, the only reason that electric cars produce any pollution at all is that their electric energy is generated by power plants–electric cars themselves **emit** no exhaust.

What is the meaning of the word *emit*?

A. exchange
B. collect
C. catch
D. give off

6. **R – 1.1**

Read this sentence from the article.

When energy comes from large sources such as power plants, it's easier to **regulate** and monitor, so there's less waste than if the energy is generated by many smaller sources, such as the gas engines in individual cars.

What is the meaning of the word *regulate*?

A. exhibit
B. control
C. raise
D. produce

7. **R – 1.2**

Read this sentence from the article.

As the world becomes increasingly populated, it is also becoming **alarmingly** polluted.

The author uses the word *alarmingly* to describe the pollution suggesting –

A. a crisis

B. fear

C. an emotion

D. a increasing population

8. **R – 1.2**

Read this sentence from the article.

Also, during the production of electric cars, more time and energy is spent making the design lighter and more **aerodynamic** so that there will be less drag from the wind.

The author uses the word *aerodynamic* to suggest–

A. a brand of car

B. a specific design technique

C. more wind resistance

D. car with an electric motor

9. **R – 1.2**

Read this sentence from the article.

There are fewer moving parts over all, so there are fewer **potential** problems.

The author uses the word *potential* to describe –

A. ongoing problems

B. non-essential problems

C. possible problems

D. fewer problems

10. **R – 1.2**

Read this sentence from the article.

Overall, there are numerous benefits of driving an electric car.

The author uses the word *overall* to prepare the reader for:

A. more information about electric cars

B. another idea

C. another fact

D. a summary of the article

Use With High-Quality Element Ten

Overview of California's 2008-2009 Accountability Progress Reporting System

This overview provides summary information designed to assist accountability coordinators, management staff, and boards of education at local educational agencies (LEA's) in understanding academic accountability requirements in California.

California's comprehensive accountability system monitors the academic achievement of all the state's public schools, including charter schools, the local educational agencies (LEA's) that serve students in kindergarten through grade twelve. (An LEA is a school district or a county office of education.) This accountability system is based on state requirements, established by the Public Schools Accountability Act (PPSA) of 1999, and on federal requirements, established by the No Child Left Behind (NCLB) Act of 2001.

Accountability Progress Reporting

The California Department of Education (CDE) reports both state and federal accountability results under the general heading of the "Accountability Progress Reporting" (APR) system. The table below shows the reports included in APR for 2008-2009. State required reports include both Base and Growth Academic Performance Index (API) results. Federal-required reports include Adequate Yearly Progress (AYP) and Program Improvement (PI) results. The reports are located on the CDE Web site at http://www.cde.ca.gov/apr/.

2008-2009 APR System

State Accountability Requirements	Federal Accountability Requirements
• 2008 Base API Report (release May 2009) • 2009 Growth API Report (release August 2009)	• 2009 AYP Report (release August 2009) • 2009-10 PI Report (release August 2009)

State Accountability Requirements

State results focus on how much schools are improving academically from year-to-year, based on results of statewide testing. The API is the cornerstone of the state's academic accountability requirements. Its purpose is to measure the academic performance and growth of schools. Each school has unique API growth targets.

Base and Growth API

The API is a numeric index (or scale) ranging from a low of 200 to a high of 1000. In order to meet state requirements and phase in new indicators, each annual API cycle includes a "Base API" and a "Growth API." The base API starts the reporting cycle and is released approximately a year aft4er testing. For example, the 2008 Base is calculated from results of statewide testing in spring 2008 but is released in May 2009. The Growth API, released after the Base API, is calculated in exactly the same fashion and with the same indicators as the prior year Base API but from test results of the following year. For example, the 2009 Growth is calculates from results of statewide testing in spring 2009 and is released in August 2009. The year of API corresponds to the year of testing.

Test Results Used in the API

California's accountability system measures the performance and progress of a school or LEA based on results of statewide tests at grades two through twelve. A school's API is a composite number representing the results of these tests. The test results shown on the chart on the next page shows the content areas and grade levels of the tests used in the API.

School API Growth Targets

The API growth targets are set for each school as a whole and for each numerically significant subgroup in the school. The annual growth target for a school or subgroup is defined as follows.

- If the school's or subgroup's Base API is between 200 and 690, the growth target is five percent of the difference between its Base API and the statewide performance target of 800.
- If the school's or subgroup's Base API is between 691 and 795, the growth target is a gain of five points.

Back to: 70 71 72 73

- If the school's or subgroup's Base API is between 796 and 799, the growth target is the following:
  1. API of 796 – a gain of four points
  2. API of 797 – a gain of three points
  3. API of 798 – a gain of two points
  4. API of 799 – a gain of one point
     - If the school's or subgroup's Base3 API is 800 or more, the school or subgroup must maintain an API of at least 800.

LEAs and schools in the Alternative Schools Accountability Model (ASAM) receive APIs but do not receive API targets.

State Test Results Used in API Calculations
Academic Performance Index (API)
California Standards Tests (CSTs) English-language arts, mathematics, history-social science, and science. • Grades two through eleven
California Modified Assessment (CMA) English-language arts and mathematics • Grades three through five
California Alternate Performance Assessment (CAPA) English-language arts and mathematics • Grades two through eleven
California High School Exit Exam (CAHSEE) English-language arts and mathematics • Grade ten (and grades eleven and twelve grade if the student did not pass . • Passed = score of 350 or above

State Test Results Used in AYP Calculations
Adequate Yearly Progress (AYP
California Standards Tests (CSTs) English-language arts and mathematics • Grades two through eight
California Modified Assessment (CMA) English-language arts and mathematics • Grades three through five
California Alternate Performance Assessment (CAPA) English-language arts and mathematics • Grades two through eight and ten
California High School Exit Exam (CAHSEE) English-language arts and mathematics • Grade ten • Proficient = score of 380 or above

Notes: More information about these tests is located the CTE Testing Web page at http://www.cde.ca.gov/ta/tg. The CSTs, CMA, CAPA, and CAHSEE are aligned to state-adopted standards, which describe the knowledge and skills the student should master at each grade level. The CMA is based on modified achievement standards and was developed in response to federal regulations. The CAPA is a standards-based test for students with significant cognitive disabilities and are unable to take the CSTs, even with accommodations or modifications. The CSTs in history-social science are only included in grades eight through eleven. The CSTs in science are only included at grades five and eight through eleven, which include the CSTs in science at grades five, eight, and ten (life science) that were developed to meet federal NCLB requirements.

How State API Results are Used

The API is used in meeting state requirements under the PSAA and federal AYP requirements under NCLB. Under state requirements, if a school meets certain API participation and growth criteria, it may be eligible to become a California Distinguished School, National Blue Ribbon School, or Title I Academic Achievement Awards School. If a school does not meet or exceed its growth targets and is ranked in the lower part of the statewide distribution of the Base API, it may be identified for participation in state intervention programs, which are designed to help the school improve its academic performance. Under federal NCLB requirements, the API is one of the indicators for AYP.

Federal Accountability Requirements

Federal results are reported in August and focus on how well schools and LEAs meet AYP criteria (also referred to as AYP targets). NCLB requires that all schools or LEAs of the same tyhpe meetd the same academic targets throughout the state, regardless of their baseline levels of performance. The AYP targets increase until 2014-14 when all schools must have 100 percent of their students performing at the proficient level or above on statewide tests.

Federal AYP

Federal results are reported in terms of how well schools and LEAs meet AYP criteria (also referred to as AYP targets). NCLB requires that all schools or LEAs of the same type meet the same academic targets throughout the state, regardless of their baseline levels of performance. The AYP targets

increase until 2014 when all schools and LEAs must have 100 percent of their students performing at the proficient level or above on statewide tests.

AYP Performance Targets

Each year, schools and LEAs must meet four sets of requirements to make AYP. The requirements reflect statewide performance levels and are the same for all schools and LEAs of the same type (see the table below). The requirements include: (1) student participation rate on statewide tests, (2) percentage of students scoring at the proficient level or above in English-language arts and mathematics on statewide tests, (3) Growth API, and (4) graduation rate (if high school students are enrolled). Numerically significant subgroups at a school or LEA also must meet participation rate and percent proficient requirements.

Statewide AYP Requirements for 2008-09 School Year

Type of School or LEA	Participation Rate	Percent Proficient in English-Language Arts	Percent Proficient in Mathematics	API Growth	Graduation Rate (if high school students enrolled)
Elementary Schools, Middle Schools, and Elementary School Districts	95%	46.0%	47.5%	650 or 1 point growth	N/A
High Schools and High School Districts (with grade levels 9-12)		44.5%	43.5%		83.1% or +0.1% one-year change or +0.2% two-year change
Unified School Districts, High School Districts, and County Offices of Education (with grade levels 2-8)		45.0%	45.5%		

These 2008-09 AYP requirements reflect increases from the prior year. AYP targets will continue to increase annually until 2014. A complete of all AYP targets from 2002 through 2014 are shown on pages 23 through 25 in the 2008 *Adequate Yearly Progress Report Information Guide* on the CDE AUP Web page at http:..www.cde.ca.gov/ayp.

Federal PI

Federal accountability results, reported in August, also include information about a whether a school or an LEA receiving federal Title I, Part A, Basic, funds has been identified as PI because it has not met AYP targets for two consecutive years within specific areas.

Schools and LEAs in PI must implement additional federal requirements. A school or an LEA is eligible to exit PI if it makes AYP for two consecutive years. If a school or an LEA is identified for PI, it must provide certain types of required services and/or interventions. Information about PI repors and identification is located on the CDE A YP Web page at www.cda.ca.gov/ayp. Information about a PI required services and/or interventions is located on the CDE PI Web page at www.cde.ca/ta/ac/ti/programimprov.assp.

Subgroups for API and AYP

Subgroup results for API and AYP are calculated for the following categories:

- African American (not of Hispanic origin)
- American Indian or Alaska Native
- Asian
- Filipino
- Hispanic or Latino
- Pacific Islander
- White (not of Hispanic origin)
- Socioeconomically Disadvantaged
- English Learners
- Students with Disabilities

To be considered “numerically significant” for API, a subgroup must have **either**: (1) at least 50 students with valid test scores who make up at least 15 percent of the total valid scores, or (2) at least 100 students with valid test scores.

In determining percent proficient calculations under AYP, the definition of numerical significance is the same as the API definition. However, in determining participation rate calculations under AYP, the definition is based on enrollment rather than the number of valid tests.

Use With High-Quality Element Ten

Performance Task Rubric

Writing Prompt: After interviewing an entrepreneur selected by your teacher, write a two- to three-page analytical essay of the interview, conveying information learned from the entrepreneur, and analyzing the entrepreneur's contribution to the local economy.

Standard: Career Pathway B 5.1

Understand the role and importance of entrepreneurship and the small business in the economy.

Advanced	Proficient	Basic	Unacceptable
• Data from the interview is correctly and thoroughly analyzed. • Report is an analysis of entrepreneur's contributions to the local economy. • Report demonstrates the importance of entrepreneurship in the economy.	• Data from the interview is correctly analyzed. • The report is an analysis of entrepreneur's contributions to the local economy. • Report demonstrates some importance of entrepreneurship in the economy.	• Data from the interview has minimal analysis. • Report minimally addresses entrepreneur's contributions to the local economy. • Report demonstrates minimal importance of entrepreneurship in the economy.	• Data from the interview is not correctly analyzed. • Report does not address entrepreneur's contributions to the local economy. • Report does not demonstrate importance of entrepreneurship in the economy.

Standard: Communications 2.2: Writing Application 2.3

Write an analytical essay that:

- 2.3 b Conveys information accurately and coherently;
- 2.3 c Makes distinctions between relative value and significance of the facts;
- 2.3 f Uses technical terms and notations accurately.

Standard: Communication 2.2: Writing Strategy 1.9

Revise writing to improve the logic and coherence of the organization and the precision of word choice.

Standard: Communication 2.2: Oral and Written Conventions 1.4

Produce legible work that shows accurate spelling and correct use of the conventions of punctuation and capitalization.

Advanced	Proficient	Basic	Unacceptable
• Information gathered reflects clear use of interview questions. • Information is presented creatively and is well-phrased, non-duplicative, thorough, and comprehensive. • Information is written in a logical order and uses precise and descriptive language. • Document contains few, if any, errors in English language conventions.	• Information gathered reflects clear use of interview questions. • Information is presented creatively and is well phrased, non-duplicative, thorough, and fairly comprehensive. • Information is written in a logical order and uses some precise and descriptive language. • Document contains some errors in English language conventions.	• Information gathered reflects some unclear use of interview questions. • Information presented is fairly well phrased, somewhat duplicative, and has limited details. • Information is not logically sequenced and uses little precise and descriptive language. • Document contains several errors in English language conventions.	• Information gathered reflects unclear use of interview questions. • Information presented is poorly phrased, has few details, or is partially or totally incomplete. • Information is not written in a logical order and does not use precise or descriptive language. • Document contains several serious errors in English language conventions.

Standard: Foundation 9.3:

Understand how to organize & structure work individually & in teams for effective performance & attainment of goals.

Advanced	Proficient	Basic	Unacceptable
• Student effectively demonstrates his/her role in the group activity, contributing effectively to the total group and effectively completing all individual tasks.	• Student effectively demonstrates his/her role in the group activity, contributing to the total group and completing all individual tasks.	• Student works in the group activity, contributing some to the total group and does not complete individual tasks.	• Student does not participate in the group activity and does not contribute to the work of the total group or in completing individual tasks.

Back to: 71 72 73

Use With High-Quality Element Ten

Student Data Using the District's Data Analysis Program

(Note: Format reflects the Edusoft Program)

Exam:	CST – STAR 06-07	**Roster:**	2006-2007 School Year
School:	xxxxxx	**Grade**	10
Teachers	xxxxxx	**Ethnicities:**	All
Ed. Programs:	All	Custom Groups:	All
Genders:	All	**Courses:**	All

Compare by: STUDENT Score Type: SCALE SCORE Score Type: PERFORMANCE LEVEL

Name	English/Language Arts	Mathematics
Student # 1	288	349
Student # 2	287	358
Student # 3	360	325
Student # 4	255	355
Student # 5	375	385
Student # 6	401	378
Student # 7	435	417

English/Language Arts	Mathematics
Below Basic	Below Basic
Below Basic	Basic
Basic	Below Basic
Far Below Basic	Proficient
Proficient	Proficient
Advanced	Proficient
Proficient	Advanced

PERFORMANCE LEVELS

NOTE: The tables below show the STAR test Scale Scores and their correlation to Performance Levels. This information is not part of the report shown above.

SCALE SCORE RANGES FOR ENGLISH/LANGUAGE ARTS

Grade	Far Below Basic	Below Basic	Basic	Proficient	Advanced
9	150 – 264	265 – 299	300 – 349	350 – 396	397 – 600
10	150 – 262	263 – 299	300 – 349	350 – 391	392 – 600
11	150 - 258	259 – 299	300 – 349	350 - 395	396 - 600

SCALE SCORE RANGES FOR MATHEMATICS

Grade	Far Below Basic	Below Basic	Basic	Proficient	Advanced
7	150 – 256	257 – 299	300 – 349	350 – 413	414 – 600
General Math	150 – 256	257 – 299	300 – 349	350 – 413	414 – 600
Algebra I	150 – 252	253 – 299	300 – 349	350 – 427	428 – 600
Geometry	150 – 246	247 – 299	300 – 349	350 – 417	418 – 600
Algebra II	150 – 256	257 – 299	300 – 349	350 – 415	416 – 600

SCALE SCORE RANGES FOR HISTORY/SOCIAL SCIENCE

Grade	Far Below Basic	Below Basic	Basic	Proficient	Advanced
8	150 – 270	271 – 299	300 – 349	350 – 395	396 – 600

SCALE SCORE RANGES FOR SCIENCE

Grade	Far Below Basic	Below Basic	Basic	Proficient	Advanced
5	150 – 267	268 – 299	300 – 349	350 – 409	410 – 600
Earth Science	150 – 276	277 – 299	300 – 349	350 – 392	393 – 600

Back to: 71 72 73

Appendix

B

Reference Materials for Career Technical Education

CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

Internet Sites for CTE Organizations

AAFCS	***American Association of Family and Consumer Sciences*** www.asfcs.org
ABC	***Associated Builders and Contractors*** www.abc.org
ACTE	***Association for Career and Technical Education*** www.acteonline.org
ATEA	**American Technology Education Association** www.ateaonline.org
BLS	**Bureau of Labor Statistics (U.S. Department of Labor)** http://stats.bls.gov
CACTE	**California Association for Career and Technical Education** www.acteonline.org/about/states/CA.cfm
CAHCE	**California Association Health Career Educators** www.cahce.net
CALCP	**California Association for Leaders in Career Preparation** www.calcp.org
CAR	**Perkins Consolidated Annual Reports (Data Reports)** www.edcountability.net/CARReports/adminreports.cfm
CAROCP	**California Association of Regional Occupational Centers and Programs** www.carocp.org
CAT	**California Automotive Teachers** www.calautoteachers.com
CATA	**California Agriculture Teachers Association** www.calagteachers.org
CAWEE	**California Association of Work Experience Educators** www.cawee.org
CBEA	**California Business Education Association** www.cbeaonline.org
CCCC	**California Coalition for Construction in the Classroom** www.constructcareers.org
CCDA	**California Career Development Association** www.ccda.org
CCEA	**California Career Education Association** www.ccea-online.org
CCPC	**California Career Pathways Consortia** www.statecenter.com
CFFA	**California Future Farmers of America** www.calaged.org/ced/aged_FFA

CITEA	**California Industrial and Technology Education Association** www.citea.org
CMMA	**California Medical Assistant Association** www.cmaa-ca.org
CORD	**Center for Occupational Research and Development** www.cord.org
DECA	**California Developing Future Leaders in Marketing, Management, and Entrepreneurship** www.cadeca.org
EETC	**Equipment and Engine Training Council** www.eetc.org
FBLA	**Future Business Leaders of America** www.fbla.org
HETAC	**Home Economics Teachers Association of California** www.hetac.org
IABE	**International Academy Business and Economics** www.iabe.com
ITEA	**International Technology Education America** www.iteawww.org
NAAE	**National Association of Agriculture Educators** www.naae.org
NAMSE	**National Association of Agency Medical Services Educators** www.namse.org
NATPL	**National Association for Tech Prep Leadership** www.natpl.org
NBEA	**National Business Education Association** www.nbea.org
NCDA	**National Career Development Association** www.ncda.org
NCHSTE	**National Consortium on Health Sciences and Technology Education** www.nchste.org
NCCTE	**National Research Center for Career Technical Education** www.nccte.org
NMEA	**National Marketing Education Association** www.nationalmea.org
NTPN	**National Tech Prep Network** www.cord.org
OVAE	**Office of Vocational and Adult Education** www.ed.gov/about/offices/list/ovae
STEM	**The Science, Technology, Engineering, and Mathematics Education Coalition** www.stemedcoalition.org
WBITE	**Western Business and Information Technology Educators** www.wbite.org

Internet Resources

a-g CREDIT, DUAL ENROLLMENT, OR COLLEGE CREDIT

- University of California..... **www.ucop.edu/pathways/**
- Approved course by career/subject path ..... **http://www.ucop.edu/doorways/guide**
- California State University ..... **www.csumentor.edu**

ASSESSMENT

- National Occupational Competency Testing Institute ..... **http://www.nocti.org**
  Contains information about the testing institute.

CAREER DEVELOPMENT

- California Association of Workplace Experience Educators .....**http://www.cawee.org**
  Website includes related legislative updates, documentation of pertinent labor laws, and links to topics such as researching employers, job banks, and career exploration.

- California Career Resource Network..... **http://www.californiacareers.info/resource.html**
  This website is designed to distribute career information, resources, and training materials to K-12 counselors, educators, and administrators. The site includes a variety of tools that help students identify potential careers.

- California Career Zone ..... **http://www.cacareerzone.org/index.html**
  The website provides students with the opportunity to assess themselves on their career aspirations, explore industry sectors, and gain a reality check on their career aspirations and their future salary.

- CDE: Apprenticeships.....**http://www.cde.ca.gov/ci/ct/ap/resources.asp**
  This website outlines resources for apprenticeship programs in California, providing a discussion of laws, wages, hours, skill standards, and certification.

- Career Quizzes..... **http://www.3smartcubes.com/pages/careers.asp**
  This website contains a variety of online aptitude tests that may be helpful for students in narrowing a career pathway, including quizzes on general aptitude, academic and technical skills, learning style, career, and personality.

- Career Voyages..... **http://www.careervoyages.gov**
  This website provides information about high-growth, high-demand occupations along with the skills and education needed to attain those jobs. The website provides specific entries for students, teachers, career changers, and career advisors.

- Designing Multidisciplinary Integrated Curriculum .....**www.ConnectEdCalifornia.org**
  A step-by-step manual for incorporating curriculum integration into the curriculum.

- East San Gabriel Valley ROC Program and Technical Center.....**http://www.esgvrop.org/high_school/career.shtml#**
  This website provides career pathway guidance for students in arts and communication, business, health services, marketing, public services, and technology. Each pathway provides guidance regarding appropriate course sequences in secondary and postsecondary school.

- Guidance on Work-Based Learning..... **http://www.ppd.bham.ac.uk/policy/cop/wbl.htm**
  This website provides information for schools or universities considering the development and implementation of work-based learning.

- I Could Be ..... **http://www.icouldbe.org**
  Designed by a nonprofit organization, this website provides electronic links for mentors to connect with high school students. The goal is to introduce students to a range of career pathways and options.

- Internships Handbook for Career Academics ..... **http://casn.berkeley.edu/resources/internship.html**
  The website provides work-based learning coordinators with information on organizing student internships, students roles and responsibilities, and employer roles and responsibilities.

- Jobs for the Future ..... **http://www.jff.org**
  Provides information on Jobs of the Future concentrating efforts on youth transitions to adulthood. Through various projects, this organization studies and develops best practices for making these transitions successful.

- Nurses Hub..... **http://nurseshub.com/nursing/nurses.cfm**
  An online resource designed for nurses and nursing students. This website provides interactive health tools, nursing education, information on nursing careers, and research/references related to the medical field.

- USA Today Education Online: Career and Technical..... **http://www.usatoday.com/educate/careertech/index.html**
  Educational resources using USA Today content to help students explore careers. The website contains activities, project-based learning, and case studies.

- Vocational Information Center, Career and Technical Education Web Resources ..... **http://www.khake.com**
  This website provides a directory that links to a vast array of online resources for career exploration, employment skills, trade and technical schools, and employment search. This website includes links to job descriptions, tutorials, professional associations, industry news, and academic programs for a wide range of careers.

- WorkSmart..... **http://www.worksmart.ca.gov**
  This website is designed to help students prepare for and find new jobs. Topics presented include Getting Job Ready; Job Titles; How to Find a Job; and Tips for Success.

- Youthhood.org ..... **http://www.youthhood.org**
  This website is designed for teachers and youth to help youth plan their lives after high school and prepare for careers. The website uses the neighborhood as a metaphor to guide students through specific content areas (e.g., high school, job center, community center, hangout, government center, apartment, and health clinic).

CAREER INTEREST/APTITUDE ASSESSMENT

- Personality Sorter ..... **http://www.keirsey.com**
- Career Path Assessment ..... **http://www.math.unl.edu/~nmsi/tQ2/assessment.html**

CAREER TECHNICAL STUDENT ORGANIZATIONS (CTSO)

- Health Occupations Students of America (Cal-HOSA) **.....www.cal-hosa.org**
- California Association FHA-HERO **.....www.hect.org/fhahero**
- An Association of Marketing Students (DECA) **.....www.cadeca.org**
- Future Business Leaders of America (FBLA) **.....www.cafbla.org**
- Future Farmers of America (FFA) **.....www.calaged.org**
- Future Farmers of America (Calif. FFA) **.....www.caffafoundation.com**
- Skills USA California **.....www.skillsusaca.org**

CERTIFICATION FINDER

- National Skills USA.....**http://www.skillsusa.org/**

CTE RESEARCH

- Using Carl D. Perkins federal funds to improve Career and Technical Education within the Minnesota State Colleges and Universities system
  ..... http://www.cte.mnscu.edu/researchcorner/ACTE_Techniques.pdf

- AccessMyLibrary opens up the Gale's Group large, and ever-expanding, vault of digital content to the world, giving you direct and easy access to those resources right from search engine results.
  .....http://www.accessmylibrary.com/coms2/summary_0286-33238851_ITM

- A recent report from the National Center for Educational Statistics
  ..... http://www.cccco.edu/Portals/4/TRIS/research/Abstracts/Workforce%20Development/cte.pdf

- A fast, easy way to access Cengage Gale's authoritative business information resources.
  .....http://goliath.ecnext.com/coms2/gi_0199-7667448/The-value-of-CTE-RESEARCH.html

CURRICULUM

- Alabama Learning Exchange.....**http://alex.state.al.us/search.php?fa_submit=PLANS**
  Contains integrated lesson plans for construction, engineering, manufacturing, graphic arts, woodworking, transportation, and utilities.

- Alliance for Education.....**www.sbcalliance.org**
  A partnership among business, labor, government, community and education in San Bernardino County and Southern California, working on economic workforce development, development of rigorous career technical education, regional workforce advisories, and work-based learning opportunities through three important programs: (1) The Speakers' Bureau; (2) The Field Study Program; and (3) Project/Problem-Based Learning.

- Brokers of Expertise ..... **http://www.boepilot.org**
  The Broker's website has an online library of officially sanctioned, high quality, research-based, standards-matched and aligned materials, including many CTE resources. It is also a vehicle for sharing of best practices and resources across the state, especially those based on the California Content and Professional Standards. The portal is still in Beta stage until July of 2010.

- CTE Online ..... **http:www.CTEonline.org**
  On-line service to help practitioners articulate a clear and deliberate relationship between academic achievement and CTE courses using a variety of on-line tools.

- PBS Teacher Source ..... **http://www.pbl.org/teachersource**
  Variety of resources including lesson plans connecting core academic content to CTE courses.

- Teachers network.org .....**http://www.teachersnetwork.org/lessonplans**
  Lesson plans created by teachers for lessons at the high school, middle school, and elementary levels.

- Vocational Information Center: Career Activities and Vocational Lesson Plans **http://www.khake.com/page94.html**
  This website presents career activities, preparation for career lesson plans, work-related lesson plans, vocational lesson plans, and lesson plans and activities organized by career path.

JOB SHADOWING

- "How To Guide" .....**www.jobshadow.org**
- E-Mentor Demo ..... **www.virtualjobshadow.com**
- Converter..... **jobshadow.monster.com**

MENTORING/E-MENTORING

- Big Brothers Big Sisters of America .....**http://www.bbbsa.org**
- Governor's Mentoring Partnership ..... **http://www.mentoring.ca.gov**
- National Mentoring Partnership .....**http://www.mentoring.org**

PARENT INFORMATION AND COMMUNICATION

- College is Possible ..... **http://www.collegeispossible.org**
- FAFSA ..... **http://fafsa.ed.gov**
- Financial Aid **.....http://www.finaid.org**

SERVICE LEARNING

- National Youth Leadership Council..... **http://www.nylc.org/discover.cfm?oid=3152**
- High-School Project Examples (PDF, 84 KB).....**http://www.nylc.org/objects/DiscoverSL/HighSchoolProjects.pdf**
- National Service-Learning Clearinghouse .....**http://www.servicelearning.org/**
- National Service-Learning Partnership .....**http://www.service-learningpartnership.org/site/PageServer**
- California Department of Education-Service Learning.....**http://www.cde.ca.gov/ci/cr/sl**

TEACHER TRAINING

- California Association of Leaders For Career Preparation ..... **http://www.calcp.org**
  A website that provides professional development opportunities for CTE teachers of kindergarten through adult students. This website provides up-to-date information about CTE legislation and professional development workshop opportunities in California.

- State Center ..... **http://www.statecenter.com/workshops.htm**
  This website is dedicated to CTE, offering local, regional, and statewide workshops for CTE teachers.

WORK-BASED LEARNING

- AmeriCorps ..... **http://www.americorps.org**
- America's Career InfoNet ..... **http://www.acinet.org**
- CaCTIS-California Career & Training Information System ..... **http://www.cactis.ca.gov**
- California Apprenticeship Programs ..... **http://www.calapprenticeship.org**
- California Colleges.Edu ..... **http://www.californiacolleges.edu**
- Career Ladders ..... **http://www.careerladders.org**
- Job Corps ..... **http://jobcorps.doleta.gov**
- O*Net Online ..... **http://online.onetcenter.org**
- San Diego County Regional Occupational Program **http://www.sdcoe.k12.ca.us/rop**
- San Diego Workforce Partnership ..... **http://www.SanDiegoAtWork.com**
- The Volunteer Centers of San Francisco ..... **http://www.vcsf.org**
- Volunteer Centers of California ..... **http://volunteercentersca.org**

ONLINE JOURNALS

- Journal of Career and Technical Education ..... **http://scholar.lib.vt.edu/ejournals/JCTE/**
- Journal of Vocational Education Research ..... **http://scholar.lib.vt.edu/ejournals/JVER/**

Essential Program Components (EPC) Correlation Matrix

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

The Nine Essential Program Components	Elements of a High-Quality CTE Program (California State Plan) Page 230	Chapter Headings (CTE Framework) Page 233	Guiding Principles (CTE Framework) Page 234	California CTE State Profile Page 235
1. Standards-Aligned Instructional Materials	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
2. Instructional Time		1. Chapter One 2. Chapter Two		
3. Instructional Leadership	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 4. Key State CTE Contacts 5. State Agencies 9. High School Redesign 16. Business & Industry Involvement
4. Teacher Qualifications and Professional Development	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
5. Student Achievement Monitoring System	10. Evaluation, Accountability, Continuous Improvement	2. Chapter Two	3. Preparation for Success	14. Career Guidance and Advisement 15. Technical Skills Assessments
6. Instructional Assistance and Teacher Support	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
7. Teacher Collaboration	7. Effective Organizational Design	4. Chapter Four	4. Career Planning and Management 5. Collaboration	
8. Course Sequencing, Scheduling, and Pacing	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/ Postsecondary Linkages
9. Fiscal Support		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
1. Standards-Aligned Instructional Materials	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
2. Instructional Time			1. Standards-Based Curriculum and Instruction		7. Teaching and Learning
3. Instructional Leadership		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
4. Teacher Qualifications and Professional Development	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
5. Student Achievement Monitoring System	4. Improve Student Achievement	5. Accountability and Evaluation of CTE programs	4. Accountability	E. Data Systems and Achievement Monitoring	4. Standards, Assessment, and Accountability
6. Instructional Assistance and Teacher Support	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
7. Teacher Collaboration			2. Teachers and Administrators 3. Student Support		
8. Course Sequencing, Scheduling, and Pacing	1. Preparation for College and a Career 3. Full Range of Postsecondary Opportunities				7. Teaching and Learning
9. Fiscal Support		6. Use of Funds	6. Funding	C. Fiscal Operations	3. Funding

Eleven Elements of a Highly-Quality CTE System

from the 2008-2012 California State Plan for Career Technical Education

http://www.schoolsmovingup.net/cs/ctep/print/htdocs/ctep/organization.htm

CTE is implemented through a complex delivery system that encompasses K-12 education, including district and ROCP programs; community college certificate, degree, and transfer programs; Adult Education, offered through K-12 districts, ROCPs and noncredit community college programs; apprenticeship; and other workforce development programs. Regardless of the program, however, high-quality CTE encompasses a number of key elements, identified through the CTE needs assessment and the resource group meetings. Eleven key elements of a high-quality CTE system for California have been identified:

1. Leadership at All Levels
2. High-Quality Curriculum and Instruction
3. Career Exploration and Guidance
4. Student Support and Student Leadership Development
5. Industry Partnerships
6. System Alignment and Coherence
7. Effective Organizational Design
8. System Responsiveness to Changing Economic Demands
9. Skilled Faculty and Professional Development
10. Evaluation, Accountability, and Continuous Improvement
11. CTE Promotion, Outreach, and Communication

1. Leadership at All Levels

Institutional commitment and leadership at every level, including the institutions' governing boards, is 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.

2. High-Quality Curriculum and Instruction

CTE is a unique curricular area in education. It offers rigorous integrated technical and academic content, focused on careers that are intrinsically interesting to students, and 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 — small classes, learning communities, student organizations, and worksites — which further augments the benefits of these programs. Finally, CTE programs are dynamic; curricula need to stay current with rapid changes in the workplace, requiring on-going updates and learning on the part faculty.

High-quality curriculum and instruction in CTE includes the intentional reinforcement of the 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.

3. **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.

4. **Student Support and Student Leadership Development**
   CTE students — 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 transitions to further endeavors. Needs may range from transportation, childcare and translation services, to mentoring and coaching for success in highly challenging CTE competitions and projects or 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 and support student success in CTE. It also includes outreach to students for enrollment in CTE, which, in itself, promotes learning and success. Stakeholders emphasized the importance of enrolling students into CTE programs, as a means to engage them and motivate and facilitate learning, and then of providing the support services necessary to ensure their success.

5. **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.

6. **System Alignment and Coherence**
   In order to support the academic and career and technical achievement of students in CTE programs it is essential that the components of the entire CTE system be effectively linked. System coherence incorporates several elements, including course sequencing and pathways, articulation, and coordination across sectors. Perkins IV, through its requirement that all local grant recipients implement at least one “program of study” and its support of articulation, emphasizes the importance of system alignment. “Programs of study” as defined in the Perkins Act must:

   - Incorporate secondary education and postsecondary education elements;
   - Include coherent and rigorous content, aligned with challenging academic standards, and relevant career and technical content in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education.

   They may also “include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits.”

7. **Effective Organizational Design**
   For CTE to prepare students to meet rigorous standards and become lifelong learners with employable skills, the K-12 and community college systems need to be designed in ways that enable student persistence and success. Minimally, this entails the development of organizational structures that enable faculty to collaborate, link business and industry with workplace learning, promote student enrollments, and encourage course and program completion.

8. **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 real workforce development needs and labor market realities and predictions.

9. **Skilled Faculty and Professional Development**
   A key element of quality CTE is the skill of its instructors and the existence of a sufficient pool of skilled instructors to adequately staff programs.

10. **Evaluation, Accountability, and Continuous Improvement**
    Evaluation and accountability are key to any system or program improvement process and feature prominently in Perkins IV. 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 the federal "No Child Left Behind" act, the Carl D. Perkins Act and the Workforce Investment Act, as well as state systems designed to provide an "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. Given the multiplicity of existing accountability systems and, on the other hand, the intended integration of CTE into the very fabric of 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.

11. **CTE Promotion, Outreach, and Communication**
    As the foundation of California's workforce development system, and in its support of student learning, personal development, and career preparation, 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 policy makers. This plan makes explicit the need to clearly communicate the benefits of CTE to each of these groups based on evidence of its impacts.

Chapter Headings
for the Career Technical Education Framework for California Public Schools

GUIDING PRINCIPLES
for the Career Technical Education Framework for California Public Schools

In early 2004, the CTE Advisory Group adopted *Guiding Principles* for the design and development of CTE Standards. The writing of the *Career Technical Education Framework for California Public Schools* was driven by these guiding principles.

1. **Inclusion:**
   CTE provides all students with full access to high-quality career technical education offerings.

2. **Students and the Economy**
   CTE serves the career preparation needs and interests of students, industry, labor, and communities, while promoting workforce and economic development.

3. **Preparation for Success**
   CTE prepares students to master the necessary technical, academic, employability, decision-making, and interpersonal skills to transition to meaningful postsecondary education and employment.

4. **Career Planning and Management**
   CTE provides students with opportunities to develop and apply skills to plan and manage their careers.

5. **Integration**
   CTE incorporates instructional strategies to improve teaching and learning through rigorous academic content standards applied in real-world situations.

6. **Programs of Study**
   CTE provides sequenced curricular pathways that include career-related and academic content standards to prepare students for success in postsecondary education, careers, and lifelong learning.

7. **Innovation and Quality**
   CTE fosters innovation and continuous improvement of instructional content and delivery.

8. **Future Orientation**
   CTE demonstrates a forward-looking perspective that meets the contemporary and emerging needs of individuals, communities, and the economy.

9. **Collaboration**
   CTE partners with business, industry, labor, postsecondary education, and the community to provide classroom and work-based learning opportunities that prepare all students for success.

California CTE State Profile

Association for Career and Technical Education (ACTE)

The complete document is available at www.acteonline.org/content.aspx?id=1778

Part 1: Key Facts

Student and Teacher Information

According to 2006-2007 data from the U.S. Department of Education, the total number of CTE students in California was 3,396,644, including 1,554,611 students in secondary, 1,472,656 in postsecondary and 369,377 in adult education. Secondary enrollment appears to be trending up, while postsecondary enrollment is trending down.

Delivery System/School Information

California has a very large student population in 1,258 middle schools, 34 junior high schools, 1,204 high schools, 74 Regional Occupational Centers and Programs (ROCPs), 109 community colleges, 144 public universities and colleges, 130 WASC-accredited private universities and colleges, and 223 state-approved or exempt private colleges.

Funding/Financing for CTE

Federal: California is estimated to have received $128,508,264 from the Perkins Basic State Grant and $11,251,821 from Tech Prep in FY 2008. Of funds distributed to local recipients through the formula, 45 percent are distributed to secondary programs and 55 percent to postsecondary programs.

State: The state of California provides dedicated funding to ROCPs to serve as leaders in the delivery of CTE programs. In FY 2008-2009, the state provided $461.2 million. This funding is distributed to the ROCPs based on full-time equivalent (FTE) counts, the center's daily attendance adjusted for center size and revenue limits.

Part 2: State Administration

State Agencies

The Secondary, Postsecondary, and Adult Leadership Division, a division of the Curriculum and Instruction Branch of the California Department of Education, provides support and direction to local education agencies (LEAs) regarding secondary education, adult education, postsecondary options, career technical education, educational options, workforce development, and educational equity.

The California Community College Chancellor's Office is a state agency that serves as the administrative branch of the community college system. It provides leadership and technical assistance to the community colleges and is responsible for allocating state funding.

State Standards for CTE

In 2005, the California State Board of Education adopted a comprehensive set of CTE Model Curriculum Standards. (The CTE Standards, designed for grades 7-12 are discussed in this document in High-Quality Element Two.) In 2007, the Department of Education and the State Board of Education released the *California Career Technical Education Framework for California Public Schools, Grades Seven Through Twelve.*

Program Approval/Quality Control

At the secondary level, programs are evaluated through the annual Perkins plan and report submissions. At the community college level, the California Education Code (Section 78016) requires that, "Every vocation or occupational training program offered by a community college district shall be reviewed every two years by the governing board of the district." This review must ensure that the program meets a clear labor market demand, does not unnecessarily duplicate other training programs and has demonstrate effectiveness in program completion and employment placements. Programs that do not meet these standards must be terminated.

Part 3: CTE Initiatives and Related Policies

State Education and Workforce Agenda

The governor and legislative leaders have worked to reverse the under-funding of CTE, including through facilities funding in the Strategic Growth Plan education bond and providing grand funds for specific initiatives and pilots. Key priorities of the governor outlined in his proposed 2007-2008 budget include:

- Reforming high school CTE coursework through partnerships with community colleges to increase coordination.
- Expanding student exposure to career options through business and industry partnerships, apprenticeships, internships, and training.
- Increasing professional development opportunities for teachers and career counselors.
- Raising the quality and quantity of courses in high-growth and emerging industry sectors.
- Increasing the number of CTE courses that meet the UC and CSU "A-G" entrance requirements.
- Streamlining and simplifying teacher credentialing by reducing the number of separate CTE credentials from 175 to 15 under the direction of an appointed commission on teacher credentialing. A bill directing this activity was signed into law by the governor on October 12, 2007.

Other priorities include expanding the number of California Partnership Academies and moving toward more integrated courses combining CTE with math, science, or English.

High School Redesign
In 2005, State Superintendent of Public Instruction Jack O'Connell established the Superintendent's California P-16 Council. The first goal of the council was to address high school reform. One of the six major themes to emerge from this discussion was directly related to CTE. "Rigorous curriculum is essential for both academic and career technical education (CTE) courses. Therefore, they must be connected and integrated rather than viewed as separate pathways with implications from different economic and social status."

Career Academies
Career academies, in the form of California Partnership Academies (CPA), have played a key role in improving CTE and in broader high school reform efforts in California. CPAs are three-year programs for 10th through 12th graders that provide rigorous academics and CTE in one of 15 industry sectors, preparing students for college and careers. CPAs are structured as a "school-within-a-school" to create a close family-like learning environment. Currently, CPAs must enroll at least half of their students from the population of at-risk of dropping out of high school. Even with this at-risk population, academies are producing remarkable results.

Role of Career Clusters
California has identified 15 California Industry Sectors that are similar to the national career clusters but that specifically reflect the California economy. Each industry sector contains a number of more specific career pathways that are aligned to current and future California employment opportunities. The sectors and pathways are an integral part of education reform initiatives and they help to make academics relevant.

Academic and CTE Integration
Academic and technical skills are closely integrated through California's Model Curriculum Standards and CTE Framework. Within the foundation standards, linkages are shown to English/language arts, mathematics, history-social science, science, and visual and performing arts.

The University of California has established "a-g" requirements for entry that dictate much of the core high school curriculum for students wishing to attend college. These requirements have led to increased efforts to ensure that CTE courses can be counted toward academic eligibility for university admissions. Integrating academic content into CTE courses has allowed for a dramatic increase in approval of CTE courses for "a-g" credit.

The CTE framework includes a crosswalk of state academic standards that can be infused into various CTE courses. It also includes suggestions for strategies that allow students to transfer CTE skills to academic applications, including the California High School Exit Examination, and for creating interdisciplinary projects, as well as sample lesson plans and assignments integrating academic standards.

Secondary/Postsecondary Linkages
In addition to increased use of CTE courses to fulfill California's "a-g" requirements, CTE leaders are looking at other ways to increase linkages between secondary and postsecondary education. Initiatives include:

Tech Prep: In California, Tech Prep is administered through the California Department of Education and the

California Community College Chancellor's Office providing noncompetitive grants to the state's 80 Tech Prep consortia which includes all 109 community colleges as well as 1,252 high schools. The California Department of Education has supported innovation in Tech Prep through competitive targeted-use grants to selected local consortia for a variety of projects.

Programs of Study: California is moving forward on the implementation of Programs of Study as required under the new Perkins law. Each LEA receiving Perkins funds in 2007 will be responsible for developing and implementing a CTE Program of Study of its own choosing, with the state monitoring this development.

Dual Enrolment/Articulation: In early 2008, the Community College Research Center was awarded a three-year grant to manage and evaluate a new career and technical education dual-enrollment initiative. Known as the "Concurrent Courses: Pathways to College and Careers Initiative," this project aims to strengthen college and career pathways for low-income, academically struggling, and under-represented students in California by providing them with rigorous, supportive, and career-focused dual-enrollment opportunities. The initiative will support eight secondary-postsecondary partnerships.

Career Guidance and Advisement

California has established the California Career Resource Network (CalCRN) to provide students throughout the state with a range of online and hard-copy resources and materials. The CalCRN Website offers various materials, such as planning guides and assessment tools, as well as links to job-listing resources, job-search preparation guides, and career-development information specific to California, including skills and degrees required for many career areas and specific occupations. In addition, in early 2005, CalCRN developed The Real Game California, which incorporates California economic and workforce information and gives students many of the essential skills to become self-sufficient, career self-managers for life.

Technical Skills Assessments

California is not currently pursuing a statewide technical-assessment system. Instead, the state relies on market-responsive program curricula to evaluate technical-skill proficiency.

Business and Industry Involvement

At the state level, the GetREAL (Relevance in Education and Learning) coalition, representing business, labor, education, agriculture, public safety and health, is actively involved in California's CTE programs. The coalition believes that California should offer more well-rounded education that includes college prep classes and hands-on vocational training and technical education to provide students with more choices and opportunities to qualify for good-paying jobs in a variety of fields.

At the local level, the California education code also requires advisory committees for specific programs. These advisory committees provide input on programs and curriculum and serve as a liaison between educators and the broader employment community.

Educator Development

The California Commission on Teacher Credentialing (CCTC) is currently revising the designated-subject credential system to reduce the number of different credentials issued by expanding the scope of subjects authorized by each credential. The new credentials will be aligned with the 15 industry sectors.

At the secondary level, the CDE has provided both professional development and targeted technical assistance to CTE educators and administrators.

Part 4: Results

Research on CTE programs in California has shown remarkable results. ROCP students:

- Improve their high school grade point averages at a greater rate than comparison students.
- Enroll in postsecondary education in large numbers.
- Earn higher wages than comparison group peers.
- Have more success in securing raises and promotions on the job.
- Prefer ROCP classes over other subjects.

Multiple Pathways

Alliance for Excellent Education

The complete document is available at www.all4ed.org

The traditional American high school has long represented a critical decision point at which students must choose to pursue college or a career. Yet there is growing recognition that to best serve students and society, today's high schools must offer more than education for just one option or the other. To prepare students for success in life, the twenty-first century American high school needs to shift its focus from preparing for college *or* career to achieving college *and* career readiness for every student.

The California Multiple Pathways Approach

The California multiple pathway approach is grounded in a set of **four guiding principles:**

1. **Pathways prepare students for both college and career.** Understanding that both objectives are critical to future success, pathways are predicated on meeting both without forcing a choice. Students exiting a pathway program should not have any options closed off to them.

2. **Pathways connect academic to the real world.** By integrating academics with a demanding CTE curriculum, pathways alter how core academic subjects are taught, without lowering expectations or watering down content.

3. **Pathways lead to the full range of postsecondary opportunities.** Although not all pathway students will enroll in a four-year college after high school, they will graduate prepared for the full range of options, including two and four-year college, job training, apprenticeships, certificate programs, and the military.

4. **Pathways improve student achievement.** Pathways are designed to produce greater accomplishment in a diverse set of measurable areas, including tests of academic achievement, mastery of technical skills, and educational attainment at multiple levels.

California multiple pathways programs are comprised of **four core components**

1. **A challenging academic component** delivers academics built around the A-G curriculum that are designed to prepare students for success without remediation in all postsecondary options.

2. **A demanding technical component** delivers concrete knowledge and skills through a cluster of four or more technical courses. The focus is on preparing youth for high-skill, high-wage employment by emphasizing industry-related knowledge and skills, as well as academic principles and authentic applications that bring learning to life.

3. **A work-based learning component** delivers opportunities to learn through real-world experiences such as internships, apprenticeships, and job shadowing. Work-based learning helps students relate what they are learning in the classroom to the real world.

4. **Supplemental services** provide counseling and academic support to help students through a challenging program of study.

2008-2012 Local Plan

Carl D. Perkins Career and Technical Education Improvement Act of 2006

P.L. 109-270

Introduction

1.	Provide a clear and specific introductory statement of the plan, what it is about, and the importance of this plan for your agency.	HQE 1 & 7
	Type Here:	

Chapter One: Career Technical Education in the Local Educational Agency

1.	Describe the current status of the career technical education (CTE) delivery system in the local and regional area.	HQE 1 & 7
	Type Here:	
2.	Provide information regarding the participation of students in CTE programs as compared to total district enrollment. Information should include enrollment, demographics, and achievement data.	Student Data
	Type Here:	

Chapter Two: Building High-Quality Career Technical Educational Programs

1.	Provide your agency's vision and mission for the delivery of career technical education (CTE) in the future.	HQE 1 & 7
	Type Here:	
2.	List the goals and expected outcomes for CTE as defined by stakeholders.	HQE 2, 3, & 4
	Type Here:	
3.	Provide information regarding the participation of students, parents, business/industry representatives, and community leaders in the development of this plan.	HQE 5
	Type Here:	
4.	Provide a list of the CTE industry sector(s) and career pathway(s) to be assisted with the Perkins IV funds and designed to be consistent with the overall CTE vision and meet or exceed the state adjusted levels of performance. (This response could be a table.)	HQE 2 & 7
	Type Here:	
5.	Describe the process and rationale for determining the CTE program(s) to be assisted with Perkins IV funds.	HQE 1, 2, & 7
	Type Here:	
6.	Describe how labor market information is used to determine the CTE programs offered by the Local Educational Agency. (State Plan)	HQE 8
	Type Here:	

Chapter Three: Responses to Satisfy the Requirements of Perkins IV and the State Plan

Section 1: Alignment of the Career Technical Education Program

1.	All individuals are informed about the State Plan and Perkins IV requirements. A. Describe how parents, students, academic, and CTE teachers, faculty, administrators, career guidance and academic counselors, representatives of business and industry, labor organization, representatives of special populations, and other interested individuals are involved and participate in the ongoing development, implementation, and evaluation of local CTE programs. (Perkins IV Section 134[b][5]. State Plan)	HQE 5, 6, & 11
	Type Here:	
	B. Describe how such individuals and entities are effectively informed about, and assisted in understanding the requirement of the State Plan and the Perkins Act, including the requirement for CTE programs of study. (Perkins IV Section 134 [b][5], State Plan)	HQE 5, 6, & 11
	Type Here:	

2.	Describe how the appropriate courses of not less than one CTE program of study will be offered. A program of study as described in Perkins IV Section 122(1)(A), and the State Plan; • Incorporates secondary education and postsecondary education elements, • Includes coherent and rigorous content aligned with challenging academic standards and relevant CTE content aligned with the California CTE Standards and Framework in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare student to succeed in postsecondary education, • May include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits, and • Leads to an industry-recognized credential or certificate at the postsecondary level or associate or baccalaureate degree (California *Education Code* [EC] 51224, Perkins IV Section 135[b][2]).	HQE 4, 6, & 7
	Type Here:	
3.	Describe how students will be provided with strong experience in, and understanding of, all aspects of the industry in which they are studying. (Perkins IV Section 134[b][3][c]. Section 135[b][3], State Plan) NOTE: All aspects of the industry include; planning, management, finances, technical and production skills, underlying principles of technology, labor and community issues, health and safety, and environmental issues related to that industry. See the *Instructions and Guidelines* document (pages 22-24) for further explanation of all aspects of industry.	HQE 4, 5, & 6
	Type Here:	
4.	Describe how students participating in CTE programs are taught to the same coherent and rigorous content aligned with challenging academic standards as are taught to all other students. (Perkins IV Section 134[b][3][D], State Plan)	HQE 7
	Type Here:	
5.	Describe how CTE students at the secondary level are encouraged to enroll in rigorous and challenging courses in core academic subjects (as defined in section 9101 of the Elementary and Secondary Education Act of 1965). Include the implementation and alignment of the CTE Content Standards and Framework. (Perkins IV Section 134 [b][3][E]), state Plan)	HQE 11
	Type Here:	
6.	Describe in detail the CTE curriculum and instructional strategies used to deliver the CTE courses that foster "essential employability skills" such as; the ability to work in a team, critical thinking, problem solving, and leadership skills, referenced in the eleven "foundation standards" in the California CTE Model Curriculum Standards. (State Plan)	HQE 4 & 7
	Type Here:	
7.	Summarize progress to date in achieving academic and CTE integration and describe planned activities to continuously improve progress in this area over the next five years. Response should address activities such as staff development, curriculum development, collaborative program planning and implementation, and team teaching. (Perkins IV Section 135[b][1])	HQE 6 & 10
	Type Here:	
8.	Describe how students are being encouraged through counseling and guidance to pursue the coherent sequence of courses in the CTE program areas of their interest. (Perkins IV Section 134[b][11], *EC* 51228, State Plan)	HQE 11
	Type Here:	
9.	For each CTE program that will be assisted with Perkins IV funds, complete and include a Career Technical Education (CTE) Sequence of Courses worksheet that appears as the last page of the template. (Perkins IV Section 135[b][2]) **NOTE:** The State Plan describes a coherent sequence of courses as a minimum of two or more CTE courses offered in a single CTE program area totaling at least 300 hours of instruction or a single multi-hour course consisting of a minimum of 300 hours of instruction. Program sequences must include a capstone course. Secondary CTE programs may include a Regional Occupational Center/Program (ROCP) course as the "capstone" course.	HQE 5, 6, & 7
	Type Here:	

10.	Linkages between secondary and postsecondary educational institutions include; California Community Colleges, State Universities, UC's, private postsecondary agencies, and apprenticeship programs. Summarize progress made in developing formal written articulation agreements with CTE programs in grades 11-14 and with local workforce preparation systems, i.e., (WIA Boards). Include copies of any formal articulation agreements along with a current list of articulated courses making up the program of study. (Perkins IV Section 135[b][2], State Plan)	HQE 5, 6, & 7
	Type Here:	
11.	Describe methods to be used to coordinate CTE services with relevant programs conducted under the WIA, ROCP, and other state or local initiatives, including cooperative arrangements established with local workforce investment boards, and community-based organizations, in order to avoid duplication and to expand the range of and accessibility To CTE services (State Plan). Describe methods to be used to coordinate CTE services with relevant programs conducted under the WIA, ROCP, and other state or local initiatives, including cooperative arrangements established with local workforce investment boards, and community-based organizations, in order to avoid duplication and to expand the range of and accessibility To CTE services. (State Plan)	HQE 5, 6, & 7
	Type Here:	
12.	Indicate plans to offer additional programs of study.	HQE 7
	Type Here:	
13.	Describe the activities related to the use of technology. Such activities may include: • Training of career technical teachers, faculty, and administrators to use technology, which may include distance learning • Providing CTE students with the academic and career technical skills (including the mathematics and science knowledge that provides a strong basis for such skills) that lead to entry into the technology fields • Encouraging schools to work with technology industries to offer voluntary internships and mentoring programs, including programs that improve the mathematics and science knowledge of students (Perkins IV Section 135[b][4])	HQE 7
	Type Here:	

Section 2: Support and Services for Special Populations

NOTE: The term "Special Populations" means: individuals with disabilities; individuals from economically disadvantaged families, including foster children; individuals preparing for nontraditional fields; single parents, including single pregnant women, displaced homemakers, and individuals with limited English proficiency.

1.	Describe the extent to which CTE programs provide full and equitable participation of individuals who are members of special populations. (Perkins IV Section 135[b][9])	HQE 4, 6, & 7
	Type Here:	
2.	Describe the strategies adopted to overcome the barriers that result in lowing rates of access to or lowering success in the assisted programs for special populations. (Perkins IV Section 134[b][8][A])	HQE 7
	Type Here:	
3.	Describe in detail how CTE programs that are designed to enable special populations students meet the local adjusted levels of performance will be provided. (Perkins IV Section 134[b][8]B])	HQE 10
	Type Here:	
4.	Describe the planned activities to prepare special populations, including single parents and displaced homemakers who are enrolled in CTE programs, for high skill, high wage, or high demand occupations that will lead to self-sufficiency. (Perkins IV Section 134[b][8][C])	HQE 7 & 10
	Type Here:	

5.	Describe how individuals who are members of special populations will not be discriminated against on the basis of their status as members of the special populations. (Perkins IV Section 134[b][9])	HQE 7
	Type Here:	
6.	Describe strategies to identify, recruit, retain, and place male and female students who desire training for nontraditional fields. (Perkins IV Section 134[b][10]) **NOTE:** Nontraditional fields are those in which one gender comprises less than 25 percent of the total number of employees. Examples: cosmetology is a nontraditional occupation for males; construction is a nontraditional occupation for females. CTE programs for these occupations are classified as nontraditional programs.	HQE 11
	Type Here:	

Section 3: Guidance and Counseling

1.	Describe how ongoing career guidance and academic counseling will be provided to students regarding CTE, including linkages to future education and training opportunities. (Perkins IV Section 134[b][11], *EC* Sections 51224 and 51228, State Plan)	HQE 3
	Type Here:	
2.	Describe how local career guidance and academic counseling efforts are aligned with other state efforts, i.e., Senate Bill 70, 10th Grade Counseling, other counseling and guidance funds. (State Plan)	HQE 3 & 7
	Type Here:	

Section 4: Comprehensive Professional Development Provided to Teachers, Counselors, and Administrators

1.	Describe professional development activities for CTE teachers that go beyond those activities offered to all teachers through the use of district funds. (State Plan)	HQE 9
	Type Here:	
2.	Describe the professional development activities implemented or planned for the implementation that focus on the California CTE Model Curriculum Standards and Framework. (State Plan)	HQE 9
	Type Here:	
3.	Describe the ongoing professional development initiative(s) made to effectively integrate and use challenging academic and CTE standards that is provided jointly with academic teachers. Include any professional development activities conducted in conjunction with secondary and postsecondary agencies. (Perkins IV Section 135[b][5][A][i])	HQE 5 & 9
	Type Here:	
4.	Describe the pre-service and in-service training provided to staff in effective teaching skills based on research that includes promising practices. (Perkins IV Section 135[b][5][A][ii])	HQE 9 & 11
	Type Here:	
5.	Describe the in-service and pre-service training provided to staff in effective practices to improve parental and community involvement. (Perkins IV Section 135[b][5][A][iii])	HQE 9
	Type Here:	
6.	Describe the in-service and pre-service training provided to staff in the effective use of scientifically based research and data to improve instruction. (Perkins IV Section 135[b][5][A][iv])	HQE 9
	Type Here:	

7.	Describe the professional development programs for teachers of CTE and other public school personnel who are involved in the direct delivery of educational services to CTE students, to ensure that such teachers and personnel stay current with all aspects of an industry. (Perkins IV Section 135[b][5][B])	HQE 9
	Type Here:	
8.	Describe the internship programs that provide relevant business experience to teachers. (Perkins IV Section 135[b][5][C])	HQE 5 & 9
	Type Here:	
9.	Describe the programs designed to train teachers specifically in the effective use and application of technology to improve instruction. (Perkins IV Section 135[b][5][D])	HQE 2 & 9
	Type Here:	

Section 5: Accountability and Evaluation of Career Technical Education (CTE) Programs

1.	Describe the process that will be used to assess the academic and career technical performance of students participating in CTE programs. (Perkins IV Section 134[b][7], State Plan)	HQE 11
	Type Here:	
2.	Describe the process that will be used to evaluate and continuously improve the quality of CTE programs offered to students. What provisions are or will be in place to set priorities for local CTE program improvement and ensure alignment with the CTE Model Curriculum Standards and Framework. (Perkins IV Section 134[b][7], Section 135[b][6], State Plan)	HQE 11
	Type Here:	
3.	Describe plans to increase the active participation of representatives from the workforce and economic development agencies including members of business, industry, and lab or in planning, implementing, and evaluating funded programs. (State Plan)	HQE 5 & 11
	Type Here:	
4.	Describe the actions being taken and/or planned by the agency to ensure participation in California Longitudinal Pupil Achievement Data System (CALPADS) and California Partnership for Achieving Student Success (Cal-PASS) data systems process. (State Plan) **Note**: It is expected that CALPADS will be fully implemented beginning July 2009.	HQE 11
	Type Here:	

Section 6: Use of Funds

Section 135(a) of Perkins IV states, "Each eligible recipient (LEA) of the Section 131 and 132 funds shall use these funds to improve CTE programs." Federal grant funds must supplement, or augment, and not supplant state or local funds. Federal funds may not result in a decrease of state or local funding that would have been available to conduct the activity had federal funds not been received. LEAs must be able to demonstrate that federal funds are added to the amount of state and local funds that would be made available for uses specified in this local plan.

While the regulations do not provide a definition of "program improvement," it is clear that the funds may not be used to simply maintain an ongoing program. The CDE has interpreted this requirement to mean that the funds may only be used to support activities intended to enhance the effectiveness of existing programs, modify or update existing programs, and to develop and implement new programs.

1.	Describe how the Perkins IV funds supplement general funds and funds from other resources, such as School Improvement, Title I, Senate Bill 70, Proposition 1D, tenth grade counseling, other guidance and counseling and others to improve the academic and technical skills of students participating in CTE programs. (State Plan)	HQE 7
	Type Here:	

CALIFORNIA COUNTY SUPERINTENDENTS EDUCATIONAL SERVICES ASSOCIATION (CCSESA)

POLICY FRAMEWORK FOR CAREER TECHNICAL EDUCATION

Priority Recommendation for Implementation

Note: In June 2007, the CCSESA General Membership approved a policy framework and recommendations requesting that the CTE committee: (1) add an area for business partnerships (referred to here as Community Alliances); (2) prioritize the recommendations; and(3) develop action steps for those priority recommendations. The priority recommendations and action steps contained in this document are presented for approval. (For the complete list of recommendations, please see the June 2007 Meeting Highlights.)

Timeline: Given the Governor's expansion funding in 2007-08, and implementation of AB 2448, we recommend that the action steps outlined below be considered in the anticipated continued discussion in the Governor's agenda for 2008-09.

Standards-Based Curriculum and Instruction
Teachers and Administrators
Student Support
Accountability
Community Alliances
Funding

I. Standards-Based Curriculum and Instruction

Career Technical Education (CTE), properly planned and implemented, will provide rigorous and challenging academic Content Standards and the necessary technical and work behavior knowledge and skills for success in a career as well as lifelong learning. In order for this to become a reality in our K-12 schools, a number of changes must occur.

A. Provide multiple pathways for students that create strong connections between classroom curriculum and the real world.

B. Provide courses that build upon academic Content Standards and career technical education (CTE) Standards (i.e. rigorous and relevant, Standards-based and integrated career technical education and college preparation content).

C. Increase involvement of business and industry with educational partners to ensure coursework is current and meets the needs of appropriate industries (i.e. education workforce development councils, P-16 councils, education/business partnerships).

ACTION STEP 1: We recommend creating sequences of courses that include a range of both academic and career/industry content to provide all students with options.

ACTION STEP 2: We recommend bringing existing CTE instructors or members of the business and industry workforce into core academic content classrooms to co-teach with core academic content teachers. Adequate staff development and planning time would be required to build a successful partnership between the teacher and business/industry person.

ACTION STEP 3: We recommend teams of core content area teachers and CTE teachers work in business and industry during summer months so they can gain a better understanding of the knowledge and skills required in various work environments.

II. Teachers and Administrators

Strong teaching practices are an essential element in establishing and maintaining a strong career technical education (CTE) program. Strong credentialing and induction programs are vital to ensure quality professional practice. The credentialing programs must train teachers in how to effectively present academic content in the context of real-world application and problem solving.

A. Redesign teacher credentialing programs to prepare secondary teachers to teach courses that integrate academics and real-world applications.

B. Expand the variety of entities that can offer teacher credentialing programs (i.e. county offices of education, school districts and private providers).

C. Modify existing induction programs for secondary teachers to support integrated academics and real-world applications and build on initial preparation (i.e. Beginning Teacher Support and Assessment)

ACTION STEP 1: We recommend that the California Commission on Teacher Credentialing (CTC), in the context of a larger policy discussion around CTE, revise the standards of program quality and effectiveness that form the basis for approving teacher preparation programs to include training for teachers on how subject area content is presented in the context of real applications used in business and industry and how academic standards can be embedded and explicitly taught within the CTE content areas. Likewise, program standards for the Designated Subjects credential should include training on how to embed the academic subject content in delivery of CTE courses.

ACTION STEP 2: We recommend that each county superintendent examine their own capacity to offer a district internship program, either independently or under the umbrella of an existing county program, for Multiple Subjects, Single Subjects, and Designated Subjects credentials.

ACTION STEP 3: We recommend that the California Commission on Teacher Credentialing (CTC), in the context of a larger policy discussion around CTE, provide increased recognition for credit for previous business experience for Designated Subjects credentials.

ACTION STEP 4: We recommend that CISC work with CTC/CDE/BTSA Leadership to enrich the BTSA curriculum to include training on how to integrate subject area content with real world applications for core academic content teachers and to increase familiarity of CTE teachers with how academic Content Standards can be embedded in CTE courses.

III Student Support

The students in today's schools come from a wide array of family structures, income levels, ability levels, and support systems. All students need and deserve access to support, counseling, guidance, and life planning to help them succeed. Such services enhance the relevance and effectiveness of the student's educational experience and foster interpersonal

relationships for the student with caring adults. By increasing the quantity and quality of support services offered, it becomes more likely that the needs of all students will be met.

Current counselor preparation programs fall short in the area of career counseling and the CTE options available to support student comprehensive high school plans. Counselors must increase their understanding of career preparation pathways for students so they can develop meaningful high school guidance plans for students. Moreover, the number of counselors must be increased to reduce the quantity of individual case loads counselors face.

When students are able to interact with adult workplace mentors, they benefit in a number of ways. The students build a relationship with someone in the work world that can educate them on the expectations of work. They get a better understanding of the realities of the career path they are studying. Students may develop relationships and contacts that can help them in their post-secondary career pursuits.

A. Increase access to student support systems (i.e. AVID-like, personal planning/individual career plans).

B. Expand the number of counselors and provide professional development for all counselors to ensure students are aware of multiple pathways to careers.

C. Increase access to mentor programs that are connected to current and relevant business and industry (i.e. internships/mentorships for students).

ACTION STEP 1: We recommend that the AVID support structure for students be expanded to assist all students to focus on higher education and careers.

ACTION STEP 2: We recommend that the California Commission on Teacher Credentialing (CTC) incorporate training for counselors in pre-service programs on multiple pathways in CTE and require in-service training for existing counselors on multiple pathways in CTE and developing academic and career plans with students.

ACTION STEP 3: We recommend that the state include county programs in the supplemental counseling program to increase the access of the most at-risk students to career preparation counseling.

ACTION STEP 4: We recommend that various state professional organizations and unions support business participation in student internship programs to expand existing internship program options.

IV. Accountability

CTE must be accountable through formalized internal and external review processes that use data from a variety of sources to annually review the total program as well as individual student success. Accountability measures would be established based on students completing CTE coursework and program success would be assessed based on those measures.

.

A. Collect longitudinal data on students upon leaving high school, linked to CSIS and related to coursework completed (i.e. working in apprenticeship programs or jobs with career ladders,

enlisting in military, two-year and four-year colleges with or without remediation, two-year technical preparation programs).

B Establish appropriate accountability measures for students completing CTE coursework (e.g. workforce readiness certificates, competency-based certificates).

C. Assess academic content through real world contexts in the statewide accountability system

ACTION STEP 1: We recommend that the SPSSC work with CDE to identify data to be collected and linked to CSIS that identifies what options students chose upon leaving high school and coursework completed during high school.

ACTION STEP 2: We recommend that SPSSC work with CDE to establish workforce readiness certificates, competency-based certificates, and industry-based certificates for the 15 industry sectors that can be issued locally based on statewide criteria.

ACTION STEP 3: We recommend that SPSSC work with CDE/SBE to add additional outcome measures to the Accountability Report Card that include: workforce and industry certificates issued; CTE course sequence/pathway/academy completion rates; job placement/employment rates; matriculation rates into advanced training programs and/or postsecondary institutions; completion rates for CTE-related activities (CTE student organizations, service learning, project-based activities, community-based internships, cooperative vocational education experiences, and job shadowing); and UC a-g CTE course completion rates.

ACTION STEP 4: We recommend the SPSSC work with CDE/SBE to develop and include performance-based assessments as part of the STAR CST tests for grades 9-12.

V. Community Alliances

Career and Technical Education programs should be developed, implemented, and maintained in partnership with secondary and postsecondary education, business, labor, and other employers and agencies as necessary within each county. Incentives would fully engage business and industry in the identification, development, and delivery of CTE programs. County-wide community alliances build strong partnerships that support students' education and transition to a career and/or higher education.

A county-wide community alliance values:

- Sustainable and effective partnerships
- Defined outcomes at all levels of participation
- Delineation of roles and responsibilities at all levels of participation
- Diverse representation of the members of the alliance including:
  - Business and Industry, both large and small
  - Labor
  - Community Organizations
  - Parent Groups
  - Student Groups
  - Post-Secondary Institutions
  - K-12 Institutions
  - Other agencies or institutions as needed by individual counties

A. Form a county-wide community alliance that incorporates existing advisory committees within local communities into one consolidated body that would review and recommend workforce development training programs in the county-wide area, assist with finding workplace internship opportunities for students in local businesses and industries, and assist with finding workplace internship opportunities for teachers in local business and industry.

ACTION STEP 1: We recommend that each county superintendent establish a county-wide community alliance that embraces the values noted above. The purpose is to reduce the expectation for business/labor and other employers to serve on several different committees in the communities within the county.

ACTION STEP 2: We recommend that each county superintendent, in partnership with district superintendents, build stronger linkages with higher educational institutions to focus members of the alliance on student achievement goals (e.g. algebra, geometry) that support students' transition to careers and higher education.

VI. Funding

Career and Technical Education is more expensive to provide the specialized training, equipment, and facilities required for specific programs.

ACTION STEP: Significant new resources are needed to implement a robust, comprehensive education for California's students. To the extent resources are increased to support expanded CTE opportunities, they should be used to support the action steps outlined above in the high leverage policy areas:

- Standards-Based Curriculum and Instruction
- Teachers and Administrators
- Student Support
- Accountability

District Assistance and Intervention Team (DAIT)

The complete DAIT Blueprint is available at:
http://www.cde.ca.gov/ta/ac/ti/documents/daitblueprint.doc

The purpose of the District Assistance and Intervention Team (DAIT) pilots is to assess the effectiveness and application of specified tools and activities for improving student achievement, accelerate student achievement growth, and build district and county capacity to align efforts to improve student achievement.

The scope of DAIT is to commit time to participate in DAIT work and report bimonthly on district progress, conduct comprehensive needs assessment and develop high leverage strategies in Action Plan, work with the state to verify the rigor of Action Plan, and conduct an annual summary of implemented DAIT work.

In the DAIT program, the *Action Plan Tool* is a guide to implementing systemic district reform and addressing the needs of all students through full implementation of the nine school-level EPCs and supportive district policies and program supports.

The *Action Plan Tool* assists in identification of appropriate polices and programmatic changes that need to occur in light of the data. It is organized into seven strands, which represent various areas of district operation. These areas are codified in the California *EC* Section 52055.57 as follows:

A. Governance

A.1. The district's vision, mission, values, and priorities are focused on the achievement and needs of all students, especially ELs and other special needs students.

A.2. The district plan provides a coherent, focused plan and a "road map" to achievement for all student groups.

A.3. The district's policies, culture, and practices reflect a commitment to implementing systemic reform, innovative leadership, and high expectations to improve student achievement and learning.

A.4. The district plan builds on state requirements and initiatives, and on research-based practices, for improving student achievement and school leadership.

A.5. The district budget allocates aligned resources based on instructional priorities and student achievement needs.

A.6. The district has policies to fully implement the SBE-adopted EPCs for Instructional Success. These include evidence of implementation regarding instructional materials, intervention programs, aligned assessments, appropriate use of pacing and instructional time, and alignment of categorical programs and instructional support.

A.7. The district applies student achievement data to establish and communicate instructional priorities and strategies for improved student learning and achievement.

A.8. The district holds teachers, site administrators, and district personnel accountable for student achievement.

A.9. The district policies, practices, and staff demonstrate a commitment to equally serving the needs and interests of all students, parents, and family members.

A.10. The local governing board works within the scope of its role and responsibilities as a member of the district governance team.

B. Alignment of Curriculum, Instruction, and Assessment to State Standards

B.1. The district optimizes all students' opportunities to access appropriate instruction, including underperforming students, students with disabilities, and ELs.

B.2. The district has planned and implemented an academic program based upon California content standards, frameworks, and SBE-adopted/aligned materials, and articulated to curriculum, instruction, and assessments of the LEA Plan.

B.3. The district provides and fully implements SBE-adopted and standards-based (or aligned for secondary) instructional textbooks and materials for all students, including intervention in reading/language arts and mathematics, and support for students failing to demonstrate proficiency in history, social studies, and science.

B.4. The district utilizes and interprets data to inform classroom instruction, school site decision-making, and district policies and practices.

B.5. The district employs specialists for improving student learning, including content experts and specialists with skills to assist students with special instructional needs.

B.6. The district uses a variety of assessment systems to appropriately place students at grade level, and in intervention and other special support programs.

B.7. The district communicates systematically and clearly with all stakeholders, especially site administrators, teachers, students, and parents, about student achievement, academic expectations, and accountability requirements.

C. Fiscal Operations

C.1. The district has fiscal policies and a fiscal resource allocation plan that is aligned with measurable student achievement outcomes and instructional goals, including but not limited to, the EPCs.

C.2. The district and school plans align categorical expenditures with achievement and instructional goals.

C.3. The LEA Plan details fiscal plans and expenditures as tied to achievement goals and priorities.

D. Parent and Community Involvement

D.1. The district provides clear, timely, and two-way communications with parents, families, and community members about student achievement, academic and other expectations, accountability requirements, and support for their students' academic success.

D.2. The district has implemented family and parent involvement policies and programs at all schools.

D.3. The district's teachers and parents participate in decisions affecting school and categorical programs.

D.4. The district office and all schools provide multiple opportunities for parents and family members to access school programs and staff, receive student and school information and resources, and be a part of decision-making.

E. Human Resources

E.1. The district recruits, selects, and monitors principals with strong leadership skills, with a priority on placement of strong leaders at underperforming schools.

E.2. The district works with the teachers' association to recruit highly qualified teachers and to link evaluations to student success and to effective delivery of curriculum, instruction, and assessment.

E.3. The district provides support systems for teachers, especially for new teachers.

E.4. The district provides competitive salaries, wages, and benefits to classroom personnel.

E.5. The district has initiated incentives to recruit teachers from high achieving schools to teach in underperforming schools within the district.

F. Data Systems and Achievement Monitoring

F.1. The district provides and supports the use of information systems and technology, and provides professional development to site staff on effectively analyzing and applying data to improve student learning and achievement.

F.2. The district provides an accurate and timely school-level assessment and data system, as needed by teachers for the decision-making and monitoring of instruction.

F.3. The district provides and uses technology to assist with administrative functions that facilitate teachers in focusing on student learning.

F.4 District and school site staff analyze data from multiple sources, including API, AYP, and student group data, to ensure that all applicable results can be used to improve student learning and achievement.

G. Professional Development

G.1. The LEA Plan includes budgeted, coherent professional development activities that reflect research-based strategies for improved student achievement and a focus on standards-based content knowledge.

G.2. The district provides materials-based professional development, based on data and adoptions in use and focused on improving student achievement.

G.3. The district provides opportunities for professional development in reading/language arts, mathematics, and interventions, through Assembly Bill (AB) 430 (Nava/2005) Principal Training Program, Senate Bill (SB) 472 (Alquist) SBE-approved training for teachers, and other materials-based trainings as available.

G.4. The district provides opportunities for teachers to collaborate on the analysis and application of assessment data in improving curriculum, instruction, and student achievement.

Single School Plan for Student Achievement

In 2001, the California legislature amended the planning requirements for schools that participate in state and federal categorical programs funded through the Consolidated Application process, creating the *Single Plan for Student Achievement* (SPSA). Its stated purpose is to "improve the academic performance of all students to the level of the performance goals, as established by the Academic Performance Index." The requirements for monitoring these categorical programs are part of the same legislation.

The purpose of the SPSA is to raise the academic performance of all students to the level of state achievement standards. The SPSA must integrate the purposes and requirements of all categorical programs in which the school participates.

The development of the SPSA, its contents, and proposed expenditures is the responsibility of the school site council. The council should ensure that all required content is included in the plan. The SPSA template is aligned to the Categorical Program Monitoring (CPM) process which includes:

1. **Involvement**
   Parents, staff, students, and community members participate in developing, implementing, and evaluating core and categorical programs.

2. **Governance and Administration**
   Policies, plans, and administration of categorical programs meet statutory requirements.

3. **Funding**
   Allocation and use of funds meet statutory requirements for allowable expenses.

4. **Standards, Assessments, and Accountability**
   Categorical programs meet state standards, are based on the assessed needs of program participants, and achieve the intended outcomes of the categorical program.

5. **Staffing and Professional Development**
   Staff members are recruited, trained, assigned, and assisted to ensure the effectiveness of the program.

6. **Opportunity and Equal Educational Access**
   Participants have equitable access to all programs provided by the local educational agency, as required by law.

7. **Teaching and Learning**
   Participants receive core and categorical program services that meet their assessed needs.

AB2448 - Legislative Counsel's Digest

AB 2448, Hancock Regional occupational centers and programs: administration.

(1) *Existing law permits the governing board of a school district that maintains a junior high or high school to schedule classes so that each pupil attends classes for at least 1,200 minutes during any 5-schoolday period. Existing law permits a pupil to be authorized to attend school for less than the total number of days in which the school is in session per week as long as the pupil attends the required number of minutes per 5-schoolday period.*

This bill also would permit a school to schedule classes so that each pupil attends 2,400 minutes during any 10-schoolday period and would permit a pupil to attend school fewer days per week to accommodate career technical education and regional occupational center and program courses and block or other alternative school class schedules as long as the pupil attends the required minutes per 10-schoolday period.

(2) *Existing law authorizes the county superintendent of schools of each county, with the consent of the State Board of Education, to establish and maintain at least one regional occupational center, or regional occupational program, in the county to provide education and training in career technical courses.*

Existing law requires the county superintendent of schools or school districts sponsoring the regional occupational center or program to conduct a job market study in the labor market area in which it proposes to establish the center or program to ensure that the anticipated employment demand for trainees justifies the establishment of the proposed courses of instruction.

This bill, instead, would require the governing board of each regional occupational center or program, on or before July 1, 2010, to ensure that at least 90% of all state-funded courses offered by the center or program are part of occupational course sequences that target high-skill occupations that are in demand, as specified. The bill would make compliance with this and related requirements a condition of receiving funds provided under the federal Carl D. Perkins Vocational and Applied Technology Education Act of 1998. The bill would require the State Department of Education, with the assistance of the Office of the Chancellor of the California Community Colleges to meet with each program or center in the region during the 2009-10 fiscal year to validate that the required course sequences have been developed, to provide specified assistance, and to waive certain requirements as specified. The bill would require school districts, regional occupational centers or programs, and community college districts that do not develop course sequences on or before the specified dates, and have not received a waiver, as specified, to enter into a corrective action plan with the department and to meet any timelines established by the Superintendent of Public Instruction.

(3) Existing law includes providing individual counseling and guidance in career technical matters, providing a curriculum that includes skill training in occupational fields having current and future needs for the training, and providing an opportunity for pupils to acquire entry level career technical skills that may lead to a combination work-study schedule as some of the purposes of a regional occupational center or program.

This bill would require the governing board of each regional occupational center or program to establish and maintain an employer advisory board or boards pursuant to guidelines developed by the State Department of Education, as specified.

(4) Existing law requires every career technical course or program offered by a school district or county superintendent sponsoring a regional occupational center or program to be reviewed every 2 years, as specified, and requires any course or program that does not meet the requirements and specified standards to be terminated within one year.

This bill would delete the requirement that the review process include review and comments by a specified local private industry council and would delete the limitation that the review only apply to courses or programs that began subsequent to the effective date of the provisions.

The bill would require the department to conduct monitoring reviews of each regional occupational center or program at least once every 4 years, within existing resources, as specified.

(5) Existing law requires a regional occupational center or program to do specified things, including providing skill training.

This bill would revise the requirements to include a sequence of academic and skill instruction leading to an employer-endorsed skill certificate and vocational degree or certificate programs at a community college.

(6) Existing law authorizes a regional occupational center to provide, on an individual referral basis, academic and personal development instruction for adult students enrolled in a career technical education course conducted by the regional occupational center when it is determined that it is essential for this instruction to be given to ensure the employability of the adult student.

This bill would make that provision inoperative on June 30, 2010, and repeal it as of January 1, 2011.

(7) Existing law prohibits regional occupational centers or programs from claiming more

than 3% of average daily attendance based on the enrollment of pupils who are under the age of 16, but law does not include similar limitations with regard to claims for adult students.

This bill would, on or before July 1, 2008, prohibit a regional occupational center or program from claiming more than 50% of the state-funded average daily attendance for which the center or program is eligible for services provided to students not enrolled in grades 9 to 12, inclusive. The bill would, on or before July 1, 2009, prohibit a regional occupational center or program from claiming more than 30% of that average daily attendance. The bill would, on or before July 1, 2011, prohibit a regional occupational center or program from claiming more than 10% of that average daily attendance. The bill would, on or before July 1, 2010, allow a regional occupational center or program to claim an additional 5% of the state-funded average daily attendance for which the center or program is eligible for services provided to CalWORKs, Temporary Assistance Program, or Job Corps participants and participants under the federal Workforce Investment Act of 1998, as specified. The bill would require a regional occupational center or program that claims more than 40% of the state-funded average daily attendance for which the center or program is eligible for services provided to student not enrolled in grades 9 to 12, inclusive, to report to the Superintendent of Public Instruction each year on its plans to reduce the number of adult students in order to comply with those limits. The bill would allow regional occupational centers and programs operated in a rural county of the sixth, seventh, or eight class, as defined, to claim an additional 10% of average daily attendance for the attendance of adult students. The bill would allow the governing boards of a community college district and a regional occupational center or program to enter into contractual agreements under which the center or program provides services to adult students of the community college district affected by those limits if specified conditions are satisfied.

(8) Existing law limits attendance at a regional occupational center or program to pupils who are 16 years of age or older, with certain exceptions.

This bill would revise the specified exceptions to include pupils who are less than 16 years of age and are referred to the center or program as part of a comprehensive high school plan that has been approved by a school counselor or school administrator and the pupils' parents or guardians and who have individualized education programs that prescribe occupational training for which their enrollment in a regional occupational center or program is deemed appropriate. The bill would also allow the attendance of a pupil who is enrolled in grade 10 and has an approved comprehensive high school plan and whose admission will not result in the denial of admission or displacement of pupils in grades 11 and 12 that would otherwise participate in the regional occupational center or program. The bill also would prohibit adult students from enrolling in regional occupational center or program courses during the schoolday on a high school campus unless specifically authorized by the policy of the governing board of the school district.

(9) Existing law requires the average daily attendance claimed for pupils admitted to a regional occupational center or program is calculated in specified ways.

This bill would remove specified provisions related to average daily attendance calculations. The bill

also would eliminate the provision specifying that a minimum day in a regional occupational center is 180 minutes and that a minimum day in a regional occupational program is 60 minutes. The bill would revise the maximum daily attendance that may be claimed for students not enrolled in grades 9 to 12, inclusive. The bill would require each regional occupational center or program, commencing with the 2007-08 fiscal year, and each fiscal year thereafter, to use all growth average daily attendance, as specified, exclusively to serve pupils in grades 9 to 12, inclusive. The bill would also repeal various obsolete provisions of law governing the calculation of the average daily attendance generated by a regional occupational center or program in prior years.

The bill would require a regional occupational center or program to report annually to the department the academic progress of its secondary pupils, as specified, in order to receive specified, additional average daily attendance. The bill would condition the operation of this provision on the ability to disaggregate relevant data from the California longitudinal pupil achievement data system database.

(10) Existing law authorizes any regional occupational center or program to budget and accumulate an amount necessary to meet its cashflow needs known as a general reserve and budget and accumulate amounts known as the designated fund balance and as the unappropriated fund balance. Existing law authorizes regional occupational centers or programs established and maintained by school districts or joint powers agencies to budget an amount necessary to meet long-term program needs of the regional occupational center or program known as capital outlay expenditures or equipment replacement.

~~This bill, instead, would authorize any regional occupational center or program to budget and~~ accumulate amounts necessary to meet its long-term program needs in a separate account known as the capital outlay and equipment replacement reserve account, which is part of the designated fund balance. The bill would make other changes related to these accounts and to the ending balances of certain accounts. The bill would require the Superintendent of Public Instruction to require an annual certification by school districts, county superintendents of schools, and joint powers agencies commencing in the 2007-08 fiscal year that the regional occupational center or program funds have been expended as provided, and requires the Superintendent to withhold certain funds, as provided.

(11) Existing law establishes community college education programs.

~~This bill would require a community college, upon receiving federal funds provided under the federal Carl D. Perkins Vocational and Applied Technology Act of 1998, or any successor thereof, to develop~~ a plan for enabling the development of course sequences that span courses provided in grades 7 to 12, inclusive, courses provided by regional occupational centers or programs, and courses provided by community college vocational education programs. The bill would require the plan to be adopted by the governing board of the community college district on or before July 1, 2008. Copies of the plan would be required to be submitted to the appropriate school districts and regional occupational centers or programs, and the chancellor.

AB2648 - Legislative Counsel's Digest

An act to add Section 52372.5 to the Education Code, relating to career technical education.

[Approved by Governor September 30, 2008.
Filed with Secretary of State September 30, 2008.]

Legislative Counsel's Digest

AB2648, Bass.Career technical education.

Existing law encourages school districts to provide all pupils with a rigorous academic curriculum that integrates academic and career skills, incorporates applied learning in all disciplines, and prepares all pupils for high school graduation and career entry. Existing law provides for the establishment of various programs for career technical education in the public schools, including, but not limited to, regional occupational centers and programs for the purpose of, among other things, providing pupils with an opportunity to acquire entry-level career technical skills. This bill would require the Superintendent of Public Instruction to develop, in conjunction with the Office of the Secretary for Education, the community colleges, the University of California, the California State University, the Legislature, the Employment Development Department, teachers, chamber organizations, industry representatives, research centers, parents, school administrators, representatives of regional occupational centers and programs, community-based organizations, labor organizations, and others as deemed appropriate by the Superintendent, a report that explores the feasibility of expanding and establishing career multiple pathway programs, as defined, in California. The bill would require that the report include specified components, including, but not limited to, methods for developing and sharing models of integrated curriculum and instruction, strategies for increasing the course options and instructional time for pupils in high school, and recommendations for supporting regional coalitions in planning and developing the programs. The bill would authorize the Superintendent to use existing state resources and federal funds to complete the report. If state or federal funds are not available or sufficient, the bill would authorize the Superintendent to apply for and accept grants and receive donations, and other financial support from public or private sources. The bill would require the Superintendent to report to the Legislature as to the status of completing the report, and any preliminary recommendations, by July 1, 2009. The Superintendent would be required to submit a final report with recommendations to the Legislature by December 1, 2009.

Ch. 681

The people of the State of California do enact as follows:

SECTION 1. Section 52372.5 is added to the Education Code, to read: 52372.5.

(a) For purposes of this section, a "multiple pathway program" is a program that is all of the following:
   (1) A multiyear, comprehensive high school program of integrated academic and technical study that is organized around a broad theme, interest area, or industry sector, including, but not necessarily limited to, the industry sectors identified in the model standards adopted by the state board pursuant to Section 51226.
   (2) A program that ensures that all pupils have curriculum choices that will prepare them for career entry and a full range of postsecondary options, including two- and four-year college, apprenticeship, and formal employment training.

(3) A program that is comprised, at a minimum, of the following components:

(A) An integrated core curriculum that meets the eligibility requirements for admission to the University of California and the California State University and is delivered through project-based learning and other engaging instructional strategies that intentionally bring real-world context and relevance to the curriculum where broad themes, interest areas, and career technical education are emphasized.

(B) An integrated technical core of a sequence of at least four related courses, that may reflect career technical education standards-based courses, that provide pupils with career skills, that are aligned to and underscore academic principles, and to the extent possible fulfill the academic core requirements listed in subparagraph (A).

(C) A series of work-based learning opportunities that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, or virtual apprenticeships.

(D) Support services, including supplemental instruction in reading and mathematics, that help pupils master the advanced academic and technical content that is necessary for success in college and career.

(b) The Superintendent, in conjunction with the Office of the Secretary for Education, the California Community Colleges, the University of California, the California State University, the Employment Development Department, both houses of the California Legislature, teachers, chamber organizations, industry representatives, research centers, parents, school administrators, representatives of regional occupational centers and programs, community-based organizations, labor organizations, and others deemed appropriate by the Superintendent, shall develop a report that explores the feasibility of establishing and expanding additional multiple pathway programs in California, including the costs and merits associated with expansion of these programs. Multiple pathway programs created for high schools may include, but are not limited to, California partnership academies, regional occupational centers and programs, charter schools, academies, small learning communities, and other career-themed small schools.

(c) The report described in subdivision (b) shall do all of the following:

(1) Identify regulations, policies, and practices that need to be added, deleted, or amended in order to promote the development and expansion of multiple pathway programs.

(2) Set forth a reasonable timeline for the development and expansion of multiple pathway programs.

(3) Include at least all of the following components:

(A) Assessment of the current capacity of the department for the purpose of maximizing the development of these programs.

(B) Identifying the possible roles and responsibilities of other departments or agencies to assist in developing or expanding multiple pathway programs.

(C) An assessment of the appropriateness of school districts fulfilling the requirements set forth in subdivisions (a) and (b) of Section 51228 by developing industry-focused multiple pathway programs, including those described in this section.

(D) Methods for developing and sharing models of integrated curriculum and instruction.

(E) Strategies for increasing the course options and instructional time for pupils in high school.

(F) Plans for increasing opportunities for high-quality learning based on real-world applications in industry and careers.

(G) Methods for improving alignment of curriculum between middle schools and high schools with career instruction, exploration, and counseling for middle school pupils.

(H) Methods for improving coordination and articulation between high schools and postsecondary institutions, including, but not limited to, California Community Colleges, the California State University, and the University of California.

(I) Recommendations for increasing the supply of teachers who can teach effectively in a pathway setting that aims to prepare pupils for a full range of postsecondary options. Necessary specialized skills include, but are not limited to, the abilities to design interdisciplinary projects and use project-based learning as an instructional strategy, work with other teachers in a team-teaching arrangement, develop curriculum that effectively integrates academic and technical content, design and utilize high-quality work-based learning to reinforce lessons in both academic and technical courses, and develop authentic pupil assessments.

(J) Recommendations for increasing the supply of schoolsite and district administrators who can effectively create and manage schools that are implementing one or more industry focused pathway programs. Necessary specialized skills include, but are not limited to, the abilities to develop and sustain partnerships with industry partners, recruit and retain uniquely qualified teachers, guide development of integrated curriculum, understand needs for and provide teacher professional development, guide development of comprehensive guidance systems that integrate college advising and career counseling, guide development of a coordinated and sequenced work-based learning component, and utilize data to assess pupil readiness for college and career.

(K) Recommendations for supporting regional coalitions in planning and developing programs.

(L) Evaluation of current pathway programs, including partnership academies, regional occupational centers or programs and postsecondary pathway programs, including middle colleges and early college models.

(M) Recommendations for increasing and improving in-school support services.

(N) Recommendations for incorporating new measures into the state's accountability system to better assess the results of these programs.

(O) Assessment of the budgetary implications of offering all pupils access to these programs.

(d) For purposes of completing the report described in subdivision (b) the Superintendent is authorized to use existing state resources and federal funds. If state or federal funds are not available or sufficient, the Superintendent may apply for and accept grants and receive donations, and other financial support from public or private sources for purposes of this section.

(e) In developing the report, the Superintendent may accept support including, but not necessarily limited to, financial and technical support, from high school reform advocates, teachers, chamber organizations, industry representatives, research centers, parents, and pupils.

(f) The Superintendent shall report to the Legislature as to the status of completing the report and any preliminary recommendations no later than July 1, 2009.

(g) The Superintendent shall submit a final report with recommendations to the Legislature and the Governor no later than December 1, 2009.

Legislation for the Preparation of Courses of Study

Over the years, the County Course of Study has served as the board adopted course of study for the majority of mid-size to small school districts in California, and has served as an important tool for curriculum and instructional planning for teachers in these districts. The Curriculum and Instruction Steering Committee of CCSESA remains deeply committed to providing current, high-quality curriculum publications for California schools.

§ 1720 Preparation of Elementary School Courses of Study

The county superintendent of schools may, with the approval of the county board of education, enter into an agreement with the governing board of any school district and community college districts to provide for the preparation of courses of study and the development of curriculum and instructional materials to be used in the elementary and secondary schools.
(Stats. 1976, c.1010, £2., operative April 10, 1977.)

§ 1721 Preparation of Courses of Study under School District Service Agreements

The county superintendent of schools may, with the approval of the county board of education, enter into an agreement with the governing board of any school district and community college districts in the territory under his or her jurisdiction, other than specified in Section 1720, to provide for the preparation of courses of study by the county superintendent of the schools for use in the districts. The agreement shall provide for the payments of cost of services rendered.
(Stats. 1976, c.1010 £2., operative April 30, 1977.)
Amended by Stats, 1990, c.1372 (S.B. 1854), £33)

Legislation for the Preparation of Courses of Study Cited in the ***Career Technical Education Framework for California Public Schools*, page 3**

The Unique Qualities of CTE

California Education Code Section 51228 states that "Districts are encouraged to provide all students with a rigorous academic curriculum that integrates academic and career skills, incorporates applied learning in all disciplines, and prepares all pupils for high school graduation and career entry." Furthermore, *Education Code Section 51224* mandates that local district board "prescribe separate courses of study including, but not limited to, a course of study to prepare prospective pupils for admission to state colleges and universities, and a course of study for career technical training," specifically in the latter case "… a course of study that provides the opportunity for those pupils to attain entry-level employment skills in business and industry" (*Education Code Section* 51228).

GLOSSARY

Academic Standards

Standards that define the knowledge, concepts, and skills that students should acquire at each grade level in the content areas of English/language arts, mathematics, history/social science, and science.

Alignment

Process used to ensure that what teachers teach is in accord with what the curriculum says will be taught and what is assessed on official tests.

Articulation

The practice of aligning curriculum and instruction to offer a seamless *career pathway* transition between courses, grades, or schools.

California Career Technical Education Model Curriculum Standards

Referred to in the workshop as "CTE Standards" and includes the Foundation and Pathway Standards for the 15 industry sectors.

California High School Exit Examination (CAHSEE)

A standardized test administered to all public high school students in California. Students cannot receive a high school diploma without a passing score on the *CAHSEE*, which is part of California's *Standardized Testing and Reporting Progam.*

Capstone Course

The final course in a planned sequence of courses for a CTE program that provides a rigorous and intensive culmination of a course of study. Capstone courses are typically offered through *regional occupational centers and programs (ROCPs).*

Career Academy

A small learning community characterized by (1) a group of student within the larger high school who take classes together for at least two years and are taught by a team of teachers from different disciplines; (2) an academic curriculum combined with a career technical curriculum with a career theme, enabling students to see relationships among academic subjects and their applications to a broad field of work; and (3) partnerships with employers, the community, and local colleges, bringing resources from outside the high school to improve student motivation and achievement.

Career Pathway

Coherent, planned sequence of career technical education courses detailing the knowledge and technical skills students need to succeed in a specific career area.

Concentration Course

A CTE course beyond the introductory level that is intended to provide more in-depth instruction in and exploration of a specific *industry sector;* the second course and succeeding courses of a planned CTE program sequence.

CTE Course

A single course that focuses on developing technical and academic skills within a career area aligned with stated-adopted CTE and academic standards and relevant technical knowledge and skills.

Curriculum

Written plan outlining a course of study detailing directions or suggestions for teaching content in a particular area of study as directed by sets of standards.

Curriculum Mapping

Listing of a specific curriculum in chronological order indicating the amount of time and emphasis that is placed upon each curricular segment to allow for analysis of content. OR A tool for gathering data on what teachers are actually working on with their students during the school year based on content (key concepts, essential questions), specific skills (based on state standards), and assessments (tests, products or performance).

Differentiated Instruction

Instruction matched to individual students' needs, readiness, interests, circumstances, and learning profiles.

Formative Assessment

The continuous monitoring of short-term results and procedures to provide ongoing information useful in the improvement of student achievement involving interactive assessments used to support growth over time (e.g. quizzes, workshops, homework, dialogue, group work, etc.)

Foundation Standards

Concise statements that reflect the skills all students need to achieve to be successful in the workplace. These standards, once referred to as "The Secretary's Commission on Achieving Necessary Skills," are often called the "foundation skills." The standards are divided into eleven separate topics with the first two topics referring the State's Academic Standards.

Industry Sector

A group of related occupations within a broad industry. California has identified 15 industry sectors.

Instructional Unit

Sequence of lesson plans designed to teach a set of knowledge, skills, and application.

Integration

Process of taking two or more disciplines and weaving them together utilizing common activities, projects, and/or assessments.

Introductory Course

An initial or survey course in a CTE program intended to provide a beginning or introductory level of information about an *industry sector* or *career pathway;* the first course in a CTE *course sequence.*

Pacing

A type of *differentiated instruction* in which the speed at which the material is covered is adjusted according to individual students' needs and circumstances.

Pathway Standards

A statement of knowledge or skills deemed to be essential for all students in a given *career pathway.*

Performance Task

An authentic assessment modeled after a real-life task or situation that provides a student an opportunity to demonstrate his or her abilities and apply knowledge and skills.

Rubric

An assessment tool that provides scoring guidelines and descriptions of categories or levels of performance.

Sequencing

Series of three or more courses leading to an entry level career in a career pathway.

Stakeholders

Persons who have an interest in, sponsor, conduct, are directly influenced by, use, or benefit from education projects and programs.

Standard

A broad statement of knowledge or skills that indicates what student in a given sector or *career pathway* should know or be able to do.

Standard Subcomponent

In California's career technical model curriculum standards, one of a series of specific statements of knowledge or skills that provides detail on the component aspects of a *standard.*

Summative Assessment

Culminating assessment used to make a determination at one point in time (e.g. end of unit, subunit, quarter, semester, etc.) such as a culminating project.

Unpacking Standards

Identifying the concepts and skills found in both the standards and the indicators (grade-specific learning outcomes). Then examining the standards and the grade-specific indicators listed beneath them to determine exactly what the student needs to (1) know (the concepts or content) and (2) be able to do (the skills) through a (3) particular context (what educators will use to teach students the concepts and skills).

WorkAbility

A California Department of Education program providing comprehensive preemployment training, employment placement, and follow-up for high school students in special education making the transition to work, independent living, and postsecondary education or training.

Appendix

C

Research Document Supporting Career Technical Education

CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee

Research Demonstrates the Value of Career Technical Education

Career and technical education (CTE) produces gains in academic achievement and earnings and represents a significant contribution to the education of America's youth and adults in preparation of a skilled workforce. An extensive body of research exists that describes CTE programs and their outcomes, and the information below highlights the findings of numerous studies and reports.

CTE Students Achieve Academic Success:

- During the 1990s, CTE concentrators participated in more rigorous academic coursework, and, when compared with general students, CTE students are taking more and higher level math and science, found the National Research Center for Career and Technical Education (NRCCTE) in a 2003 report.[1]
- CTE concentrators take more and higher level math than their general track counterparts, according to a 2002 National Center for Career and Technical Education (NCCTE) study.[2]
- The 2004 National Assessment of Vocational Education (NAVE)[3] Final Report found that occupational concentrators increased their 12th-grade test scores on the National Assessment of Educational Progress (NAEP) by about 8 scale points in reading and 11 points in math, while students who took little or no career and technical education coursework increased their reading on NAEP by only 4 points and showed no improvement in math achievement.
- Students at schools with highly integrated rigorous academic and CTE programs have significantly higher student achievement in reading, mathematics and science than do students at schools with less integrated programs, as reported by the Southern Regional Education Board.[4]
- In 2004 the NAVE Independent Advisory Panel found that the number of academic courses taken by occupational concentrators increased by nearly 30 percent from 1982 to 1998[5], while from 1990-2000 the number of CTE students completing the New Basics curriculum (4 years of English and 3 years each of math, science, and social studies) rose from 19 percent to 51 percent, according to the 2004 NAVE Final Report.[6]
- CTE students achieve better when there is an increase in academic course taking within a curriculum integration framework and when they are placed in smaller learning communities that have well-defined career pathways.

CTE Students Experience Increases in Earnings and Improved Employment Outcomes:

- A 2002 study conducted by the Federal Reserve Bank of Chicago[7] found that a year of technically oriented coursework at a community college increased the earnings of men by 14% and women by 29%. Additionally, the study found almost no earnings increase for non-technically oriented coursework.
- CTE graduates are 10-15% more likely to be in the labor force, and earn 8-9% more than graduates of academic programs, according to a 2001 Russell Sage Foundation study.[8]
- Seven years after graduating from high school, CTE students had earnings that increased by about 2 percent for each additional high school CTE course they took, according to the 2004 NAVE Final Report.[9]
- The 2004 NAVE Independent Advisory Panel Report indicated that students who took four high school CTE courses showed an average increase in earnings of $1,200 immediately after graduation and $1,800 seven years later.[10]
- The 2004 NAVE Final Report found that postsecondary vocational education proved an effective means to higher income, as, even without attaining a credential, a single year of study brought 5 to 8 percent more earnings to postsecondary CTE students than to high school graduates with similar characteristics.[11]
- Secondary students who graduate with a career and technical education concentration are 2 times more likely to be employed while pursuing postsecondary education than are "college prep" students, according to the SREB.[12]

Career and Technical Education Reduces Dropout and Absentee Rates:

- A ratio of 1 CTE class for every 2 academic classes was shown to minimize the risk of students dropping out in a 2005 National Research Center for Career and Technical Education (NRCCTE) report.[1]
- Smaller learning communities such as career academies have been shown to reduce dropout rates by 3 percent over high schools over 1000 students as reported by Oregon State Legislature study in 2000.[2]
- In a Gates Foundation report, 81 percent of students who dropped out said that "more real world learning" may have influenced them to stay in school.[3]

CTE Students Achieve Postsecondary Success:

- Career and technical education (CTE) students enter postsecondary education at approximately the same rate as all high school graduates, notes a study by the Center on Education Policy and American Youth Policy Forum in 2000. [4]
- The National Center for Education Statistics (NCES) in 2000[5] found that vocational concentrators were more likely than their general peers to obtain a degree or certificate within 2 years, despite the fact that vocational concentrators were more likely to be employed while in school.
- A 2000 NCES study[6] found that 71.2% of all subbaccalaureate students (those enrolled in two-year or shorter postsecondary programs) have vocational majors. NCES' study also indicated that 66.2% of all degree-seeking undergraduates pursue career majors, 37.6% being vocational (non-baccalaureate) and 28.6% baccalaureate.
- The 2004 NAVE Final Report[7] states that CTE student college attendance increased by nearly 32 percent between 1982 and 1992.

Occupational Outlook:

- According to the 2004 NAVE Final Report[1], employment growth in occupations requiring a vocational associate's degree (30%) is projected to be more than double overall employment growth (14%) through 2008.
- Nearly one-third of the fastest growing occupations will require an associate's degree or a postsecondary vocational certificate, according to a 2006 Bureau of Labor Statistics (BLS) report. [2]
- More than 80 percent of respondents in the 2005 Skills Gap Report indicated that they are experiencing a shortage of qualified workers overall – with 13 percent reporting severe shortages and 68 percent indicating moderate shortages. Also 90 percent of respondents indicated a moderate to severe shortage of qualified skilled production employees, including front-line workers, such as machinists, operators, craft workers, distributors, and technicians.[1]

Some Facts About CTE:

- 96.6% of high school students take at least one vocational course, reports the 2004 NAVE Final Report.[1]
- The 2004 NAVE Final Report[2] indicated that nearly one-third of all for-credit postsecondary education students – an estimated 4.9 million youths and adults – were enrolled in subbaccalaureate vocational courses and programs.
- Students in rural schools are more likely to be involved in vocational education, the 2004 NAVE Final Report[3] found. Rural schools serve 32.2% of all public high school graduates but 40.1% of all occupational concentrators.
- The number of students enrolled in CTE programs has risen 157% from 1999 to 2004 according to an Office of Vocational and Adult Education report.[4]
- According to the Career Academy Support Network in the Graduate School of Education at Berkeley, there are over 1600 career academies in the United States covering 18 different career themes including Agriculture and Natural Resources; Arts, A/V Technology and Communications; Hospitality and Tourism; and Scientific Research and Engineering.[5]

The Association for Career and Technical Education (ACTE) *is the nation's largest education association dedicated to the advancement of education that prepares youth and adults for successful careers. For more information, contact: Jason Kiker (jkiker@acteonline.org), ACTE, 1410 King Street, Alexandria, VA 22314, (703) 683-3111, (703) 683-7424 (Fax), www.acteonline.org. October 2006.*

Sources

i Stone, J. "Research to Practice." The National Research Center for Career and Technical Education, 2003. (as cited in National Association of State Directors of Career and Technical Education Consortium "Indicators of Success: CTE and Research")

ii Stone, J., and Aliaga, O. *Career and Technical Education, Career Pathways and Work-Based Learning: Changes in Participation 1997-1999*. St. Paul, MN: National Center for Career and Technical Education, 2002. (as cited in Stone, J. *Career and Technical Education and Student Engagement, Achievement, Transition, and Labor Market Outcomes* DRAFT. National Research Center for Career and Technical Education.

iii Department of Education, Office of the Under Secretary, Policy and Program Studies Service. *National Assessment of Vocational Education: Final Report to Congress*. Washington, DC, 2004.

iv Southern Regional Education Board. "Linking Career/Technical Studies to Broader High School Reform." <http://www.sreb.org/programs/hstw/publications/briefs/04V09_ResearchBrief_CT_studies.pdf>.

v NAVE Independent Advisory Panel. *Earning, Learning, and Choice: Career and Technical Education Works for Students and Employers*. U.S. Department of Education, 2004, p.4.

vi *National Assessment of Vocational Education: Final Report to Congress*, p.94

vii Jacobson, L. et al. "Estimating the Returns to Community college Schooling for Displaced Workers." *Federal Reserve Bank of Chicago*, 2002. (as cited in National Association of State Directors of Career and Technical Education Consortium "Indicators of Success: CTE and Research")

viii Rosenbaum, J. E. *Beyond College for All*. New York: Russell Sage Foundation, 2001. (as cited in Stone, J. *Career and Technical Education and Student Engagement, Achievement, Transition, and Labor Market Outcomes* DRAFT.)

ix *National Assessment of Vocational Education: Final Report to Congress*, p.110

x NAVE Independent Advisory Panel, p.2.

xi *National Assessment of Vocational Education: Final Report to Congress*, p.165.

xii Boesel, D., Hudson, L., Deich, S., and Masten, C. *National Assessment of Vocational Education Final Report to Congress, Volume II, Chapter Six*, "Employment Outcomes." Washington, DC: US Department of Education, Office of Educational Research and Improvement, 1994. (as cited in Southern Regional Education Board. "Facts About High School Career/Technical Studies.")

xiii Plank, S. et al. "Dropping Out of High School and the Place of Career and Technical Education". The National Centers for Career and Technical Education, 2005 <www.nccte.org/publications/infosynthesis/r&dreport/DroppingOut-Plank.pdf>

xiv McComb, Jan. "Small Schools." State of Oregon Issue Brief. Salem, Oregon: Oregon State Legislature 2000 (as cited in Department of Education, ERIC Development Team. *ED461915 2002-01-00 Schools within Schools*. Washington, DC 2001.)

xv Bridgeland, J., et al. *The Silent Epidemic.* Bill and Melinda Gates Foundation, 2005.

< http://www.gatesfoundation.org/nr/downloads/ed/TheSilentEpidemic3-06FINAL.pdf>

xvi Kober, N., and Rentner, D. *Do You Know the Good News about American Education?* Washington, DC: Center on Education Policy and American Youth Policy Forum, 2000. <www.aypf.org/whatsnew.htm> (as cited in Wonacott, M. *Myths and Realities No. 8*. Educational Resources Information Center, 2000.)

xvii Levesque, K et al. *Vocational Education in the United States*. National Center for Education Statistics, 2000. (as cited in National Association of State Directors of Career and Technical Education Consortium "Indicators of Success: CTE and Research")

xviii U.S. Department of Education, National Center for Education Statistics. *1999-2000 National Postsecondary Student Aid Study* (NPSAS:2000). (as cited in National Center for Education Statistics. *Issue Brief: Undergraduate Enrollments in Academic, Career, and Vocational Education*. Feb 2004.)

xix *National Assessment of Vocational Education: Final Report to Congress*, p.105.

xx Ibid., p.7.

xxi Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook: 2006-07 Edition*. 2006. <http://stats.bls.gov/oco/home.htm>

xxii National Association of Manufacturers. "Skills Gap 2005"

<http://www.nam.org/s_nam/bin.asp?CID=202426&DID=235731&DOC=FILE.PDF>

xxiii *National Assessment of Vocational Education: Final Report to Congress*, p.270.

xxiv Bailey, Thomas R., Mariana Alfonso, Marc Scott, and Timothy Leinbach. Forthcoming. *Educational Outcomes of Occupational Postsecondary Students*. New York: Columbia (as cited in *National Assessment of Vocational Education: Final Report to Congress*, p.122.)

xxv *National Assessment of Vocational Education: Final Report to Congress*, p.41.

xxvi U.S. Department of Education, Office of Vocational and Adult Education. *Report to Congress on State Performance.* September 2005.

xxvii Career Academy Support Network, University of California-Berkeley. <http://www.wsdg3.com/casn_directory/directory.cfm>

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

CCSESA California County Superintendents Educational Services Association

Curriculum & Instruction Steering Committee

Student Program & Services Steering Committee