

CAREER TECHNICAL EDUCATION

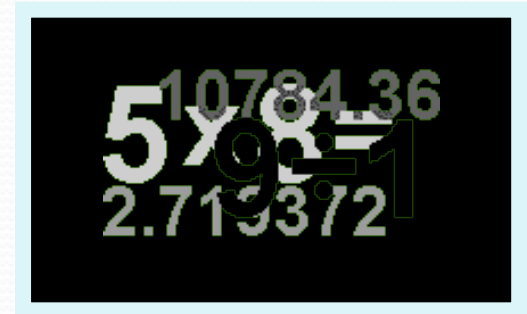
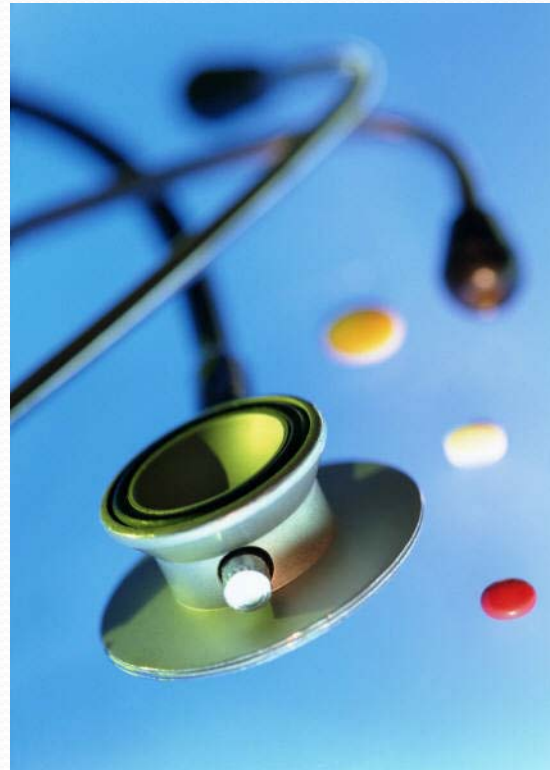
CTE 101

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What Is CTE?

Themed Instruction

Career
Training



Contextualized Academics



CAREER TECHNICAL EDUCATION is a program of study that involves a multi-year sequence of courses that integrate core academic knowledge with technical and occupational knowledge to provide students with pathways to post-secondary education and careers.

Purpose of each level of CTE

Middle School

- Exposure to careers

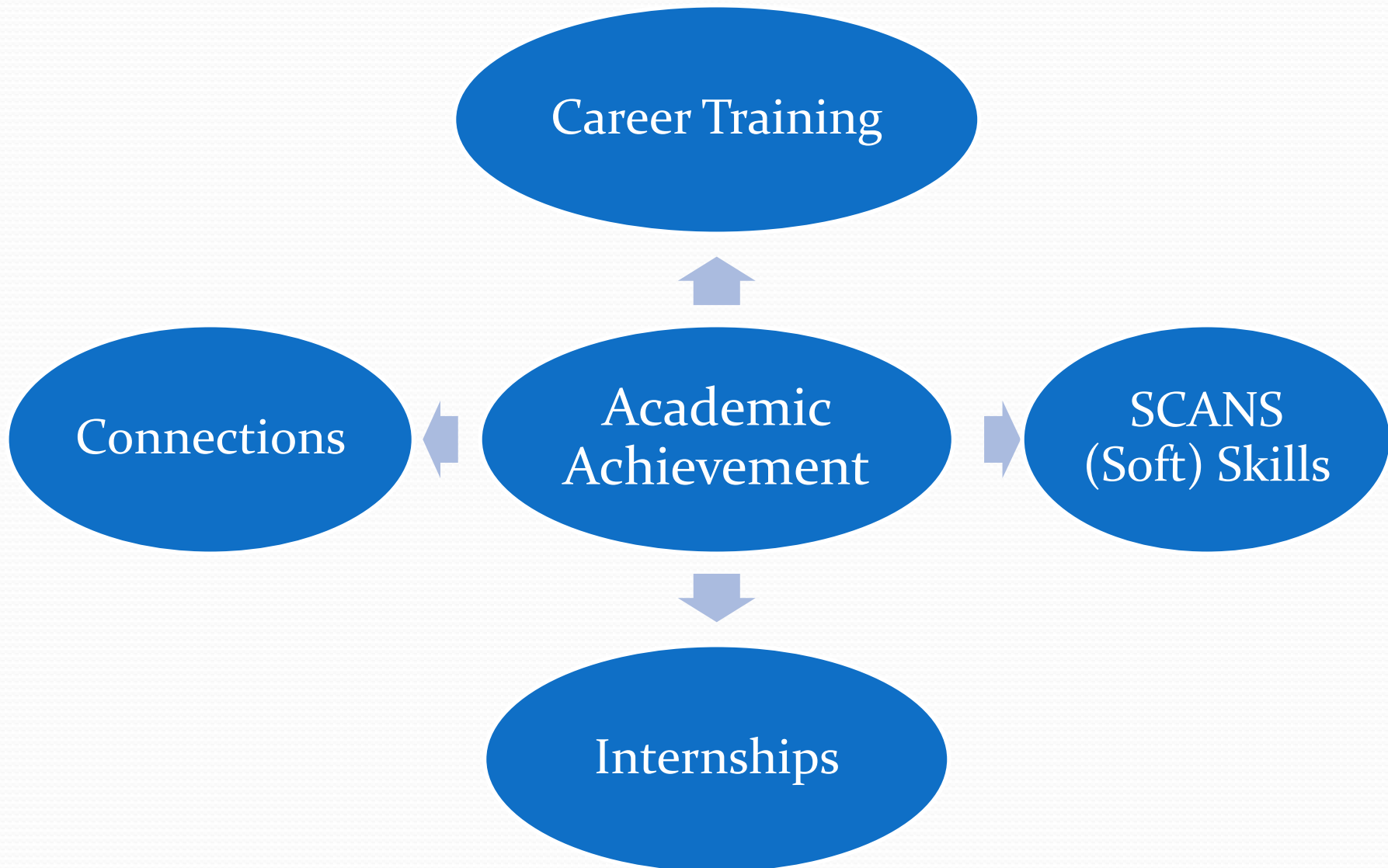
High School

- Academically rigorous education
- Career Training
- Experience
- Certification / more advanced training

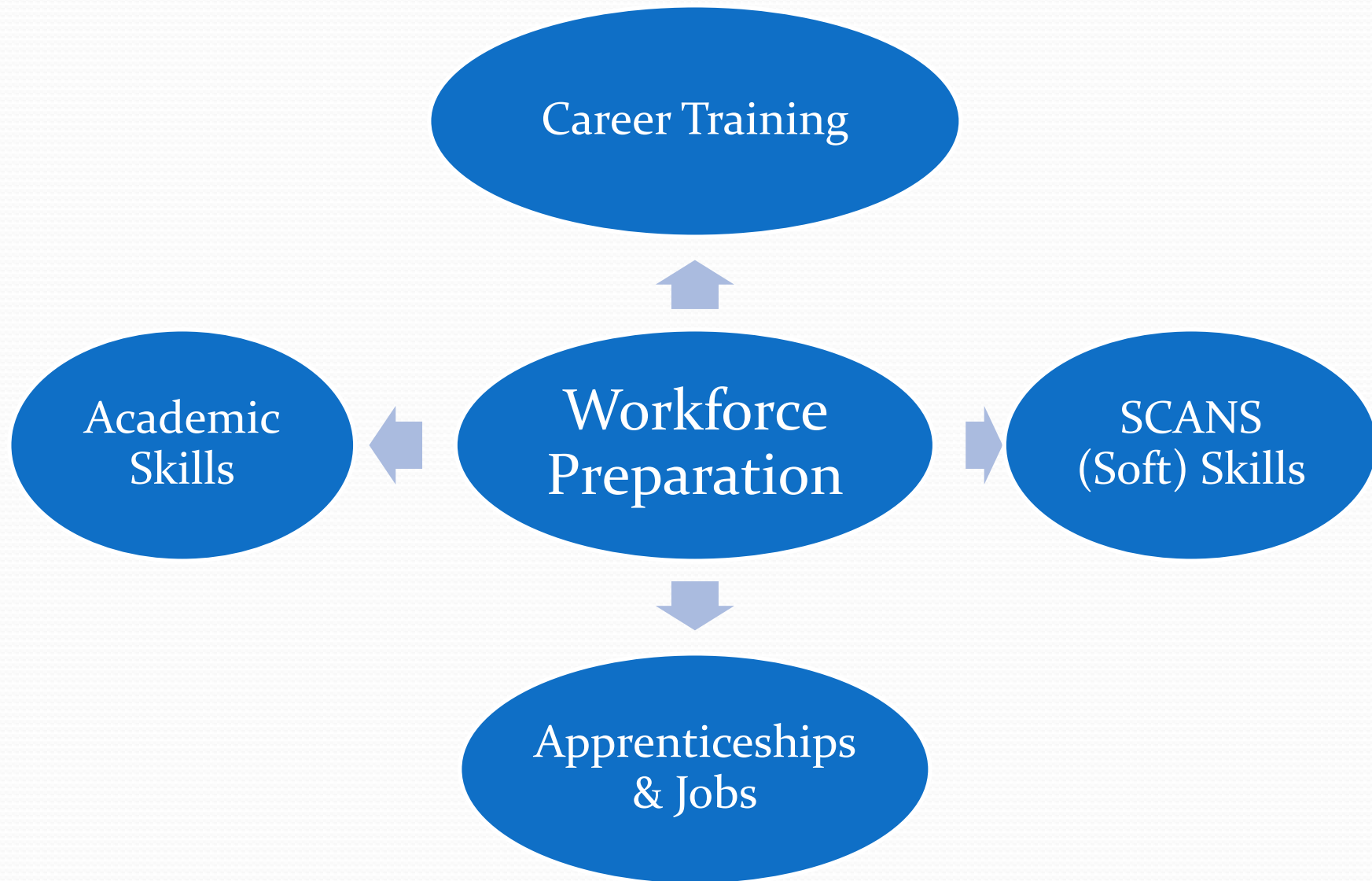
Community College/University


- Career Training with academic rigor
- Certification
- Apprenticeships / Jobs
- More advanced training

Secondary CTE



Post-Secondary CTE





CTE Terms & Concepts

Industry Sector

Groupings of careers so instruction and training can be organized and aligned to business and industry needs

- 16 nationwide
- 15 identified in California
- Formerly Career Clusters

Career Pathway

Planned sequence of courses that leads to certification, employment or more training

- 58 in California within 15 Industry Sectors
- At least two semesters, more preferred
- May include core academic
- Students must be scheduled sequentially

Industry Sectors & Pathways

CTE Industry Sectors	CTE Career Pathways			
Agriculture and Natural Resources	<ul style="list-style-type: none"> • Agricultural Business • Agricultural Mechanics 	<ul style="list-style-type: none"> • Agriscience • Animal Science 	<ul style="list-style-type: none"> • Forestry and Natural Resources 	<ul style="list-style-type: none"> • Ornamental Horticulture • Plant and Soil Science
Arts, Media, and Entertainment	<ul style="list-style-type: none"> • Media and Design Arts 	<ul style="list-style-type: none"> • Performing Arts 	<ul style="list-style-type: none"> • Production and Managerial Arts 	
Building Trades and Construction	<ul style="list-style-type: none"> • Cabinetmaking and Wood Products 	<ul style="list-style-type: none"> • Engineering and Heavy Construction 	<ul style="list-style-type: none"> • Mechanical Construction 	<ul style="list-style-type: none"> • Residential and Commercial Construction
Education, Child Development, and Family Services	<ul style="list-style-type: none"> • Child Development 	<ul style="list-style-type: none"> • Consumer Services 	<ul style="list-style-type: none"> • Education 	<ul style="list-style-type: none"> • Family and Human Services
Energy and Utilities	<ul style="list-style-type: none"> • Electromechanical Installation and Maintenance 	<ul style="list-style-type: none"> • Energy and Environmental Technology 	<ul style="list-style-type: none"> • Public Utilities 	<ul style="list-style-type: none"> • Residential and Commercial Energy and Utilities
Engineering and Design	<ul style="list-style-type: none"> • Architectural and Structural Engineering • Engineering Design 	<ul style="list-style-type: none"> • Computer Hardware, Electrical, and Networking Engineering 	<ul style="list-style-type: none"> • Engineering Technology 	<ul style="list-style-type: none"> • Environmental and Natural Science Engineering
Fashion and Interior Design	<ul style="list-style-type: none"> • Fashion Design, Manufacturing, and Merchandising 		<ul style="list-style-type: none"> • Interior Design, Furnishings, and Maintenance 	
Finance and Business	<ul style="list-style-type: none"> • Accounting Services 	<ul style="list-style-type: none"> • Banking and Related Services 	<ul style="list-style-type: none"> • Business Financial Management 	
Health Science and Medical Technology	<ul style="list-style-type: none"> • Biotechnology Research and Development • Diagnostic Services 		<ul style="list-style-type: none"> • Health Informatics • Support Services 	<ul style="list-style-type: none"> • Therapeutic Services
Hospitality, Tourism, and Recreation	<ul style="list-style-type: none"> • Food Science, Dietetics, and Nutrition 	<ul style="list-style-type: none"> • Food Service and Hospitality 	<ul style="list-style-type: none"> • Hospitality, Tourism, and Recreation 	
Information Technology	<ul style="list-style-type: none"> • Information and Support Services 	<ul style="list-style-type: none"> • Media Support Services 	<ul style="list-style-type: none"> • Network Communications 	<ul style="list-style-type: none"> • Programming and Systems Development
Manufacturing and Product Development	<ul style="list-style-type: none"> • Graphic Arts Technology 	<ul style="list-style-type: none"> • Integrated Graphics Technology 	<ul style="list-style-type: none"> • Machine and Forming Technology 	<ul style="list-style-type: none"> • Welding Technology
Marketing, Sales, and Service	<ul style="list-style-type: none"> • E-Commerce 	<ul style="list-style-type: none"> • Entrepreneurship 	<ul style="list-style-type: none"> • International Trade 	<ul style="list-style-type: none"> • Professional Sales and Marketing
Public Services	<ul style="list-style-type: none"> • Human Services 	<ul style="list-style-type: none"> • Protective Services 	<ul style="list-style-type: none"> • Legal and Government Services 	
Transportation	<ul style="list-style-type: none"> • Aviation and Aerospace 	<ul style="list-style-type: none"> • Collision Repair and Refinishing 	<ul style="list-style-type: none"> • Vehicle Maintenance, Service, and Repair 	

Clusters

The 15 industry sectors are clustered into six broad career areas that have traditionally served as an organizing structure for providing technical assistance supporting CTE student leadership organizations, and facilitating professional development.

Industry Sectors & Clusters

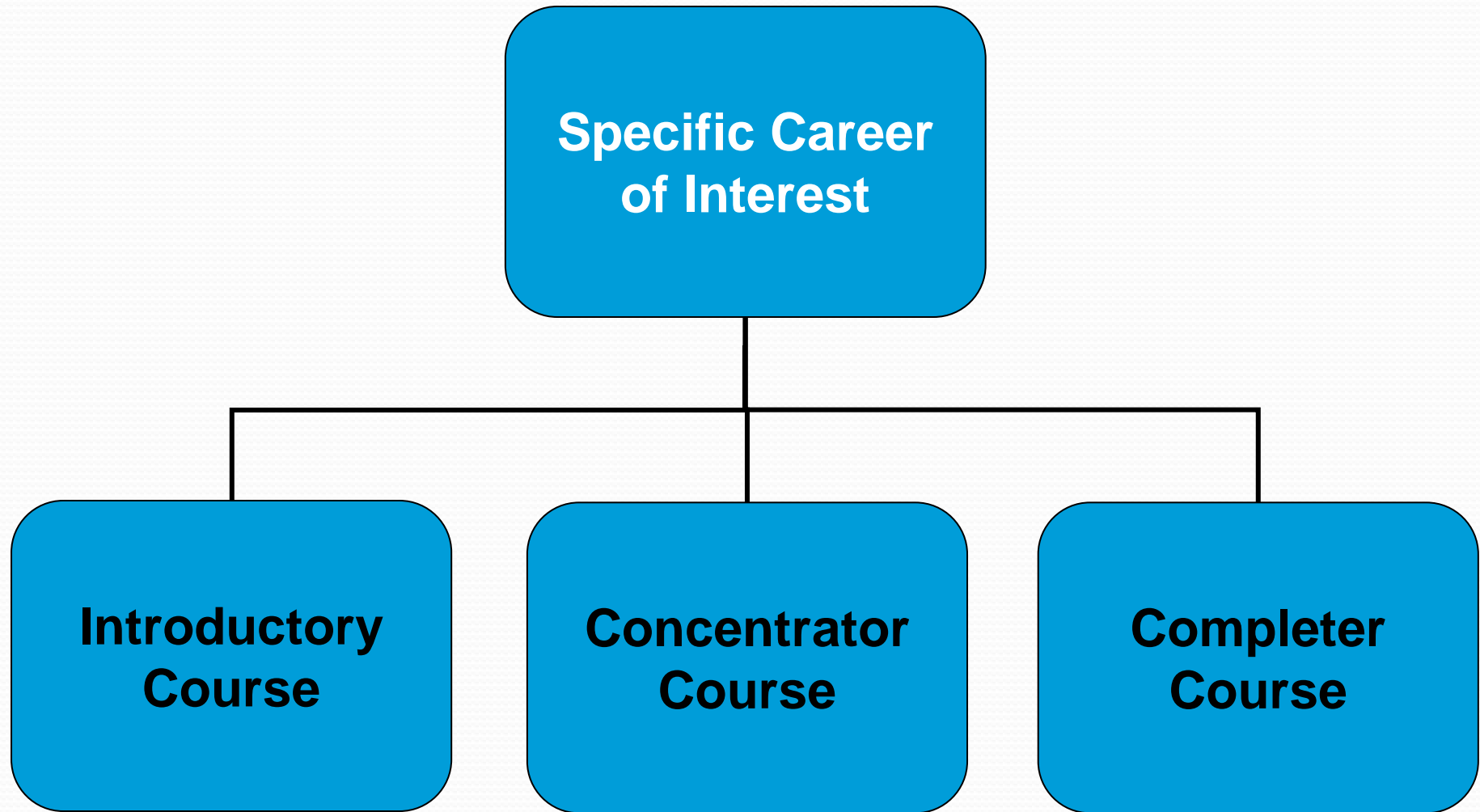
Agriculture Education	Business & Marketing Education	Health & Human Services Education
Agriculture & Natural Resources	Finance & Business	Health Science, & Medical Technology
	Information Technology	Public Services
	Marketing, Sales, & Service	
Home Economics Careers & Technology Education	Industrial & Technology Education	Arts, Media, & Entertainment Education
Fashion & Interior Design	Building Trades & Construction	Arts, Media, & Entertainment
Hospitality, Tourism, & Recreation	Energy & Utilities	
Education, Child Development, & Family Services	Engineering & Design	
	Manufacturing & Product Development	
	Transportation	

CTE Delivery in High Schools

- Career (CTE) Pathway
- Career Academy
 - CPA
 - Other

CTE Pathway

Sequence of Courses



Career Academy

Cohort of students who share academic and career courses. (May be SLC or small school)

- All instruction is themed to career
- Must have at least one career pathway
- Do not have to be Cal Partnership

Career Academy Components

**School within-a-school; classes primarily for
academy students**

**Students self-select; focus on "at risk"
students**

**Teachers plan as a team; common plan
Usually grades 10-12**

**Integrated curriculum - academic content
taught w/career focus**

**Typically 3 academic and 1 technical (career)
class in 10th & 11th, plus 1 technical (career)
& 1 additional career specific in 12th**

Dedicated counselor

Business partnership - advisory council

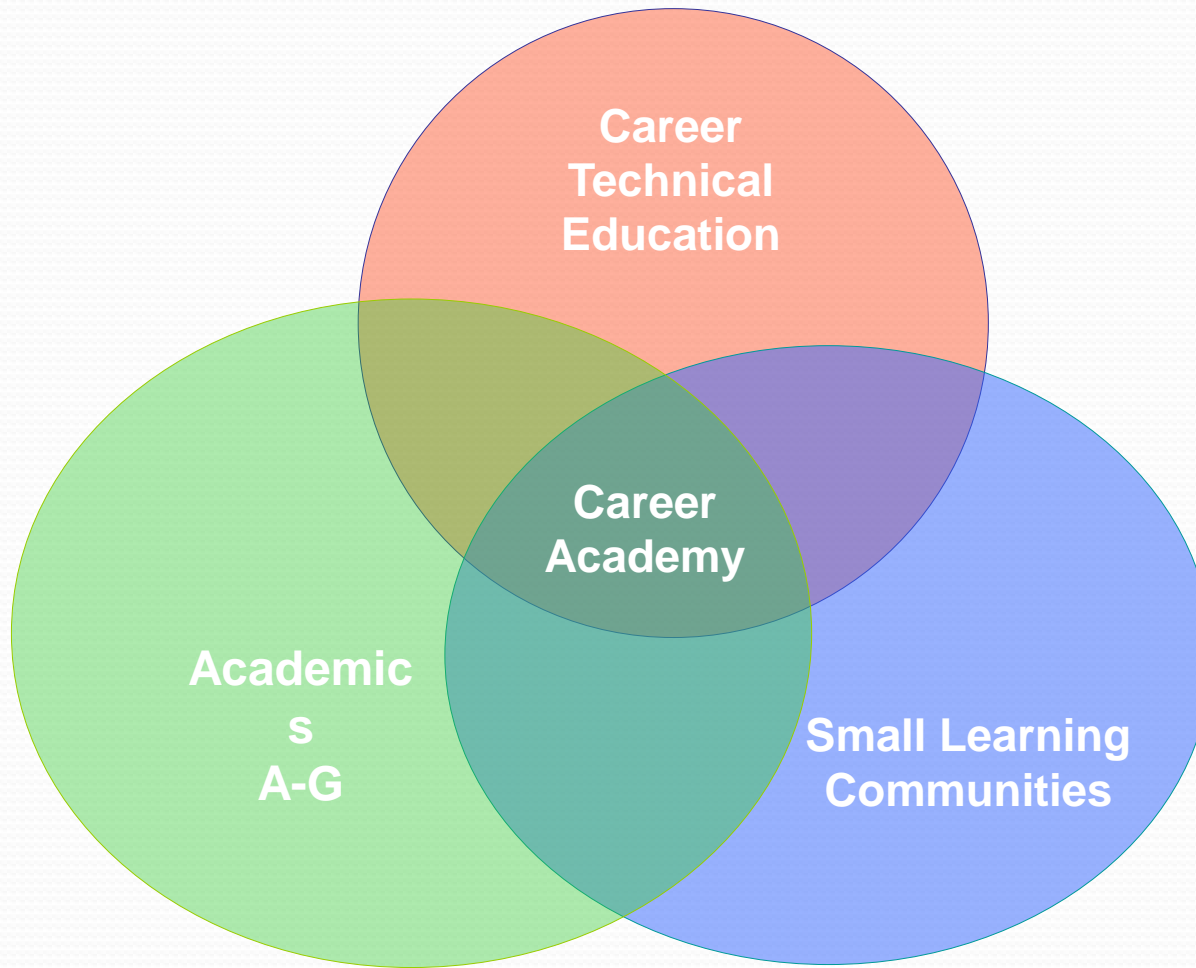
Mentoring in classroom and job sites

Internships in grades 11 or 12

Parents actively involved in academy

Assistance with college or job placement

THE CAREER ACADEMY MODEL



**INTEGRATED
INSTRUCTION**

**COMPLEMENTARY
INITIATIVES**

Program of Study

A CTE Pathway that reaches back into middle school and forward into college or university to create seamless instruction and training

- Requires instructional linkages
- Ideally officially “articulated”
- Required for Perkins recipients

CTE Plans

Perkins 2006 (IV)

Federal funds for the improvement, enhancement and modernization of CTE programs nationwide



California State Plan for CTE 2008

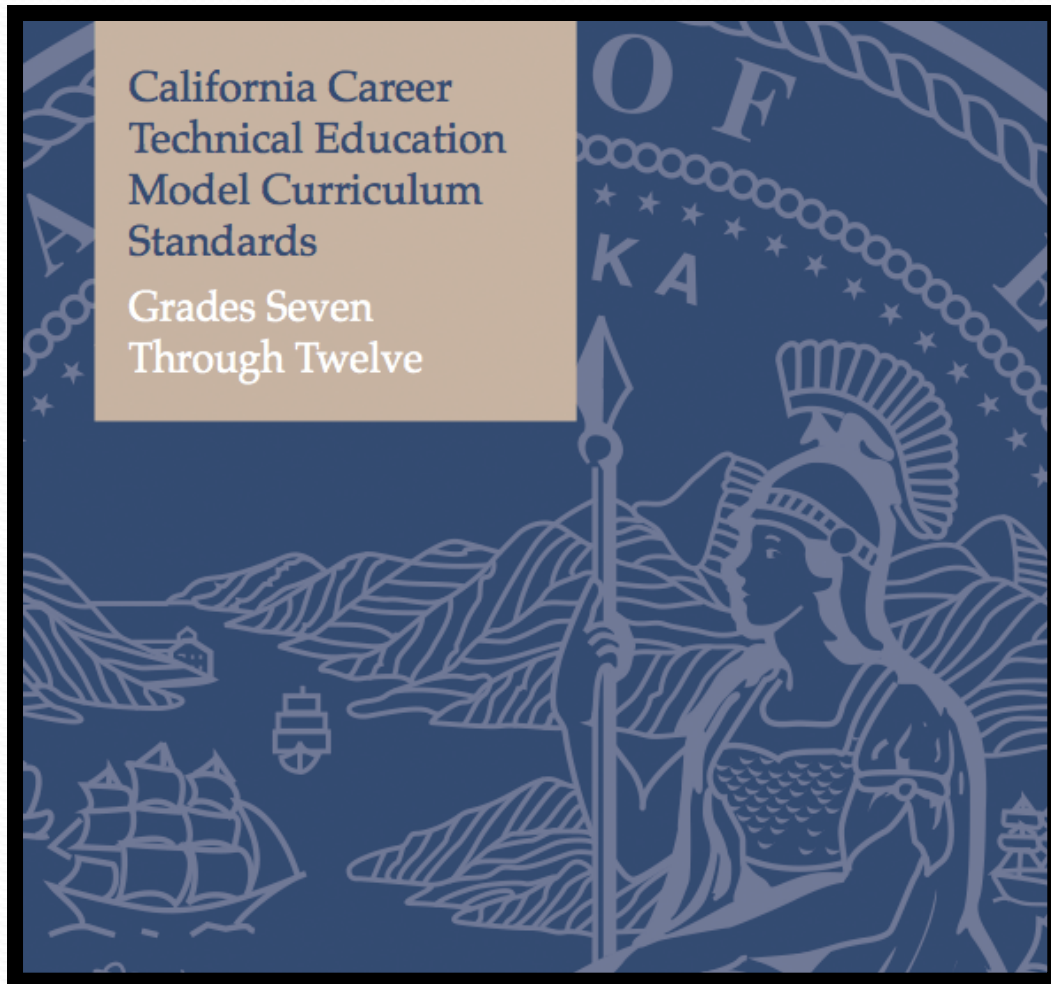
Statewide plan for building a seamless and coherent CTE system for the years 2008 – 2012.

Augments the federal legislation

Special Populations

- Individuals with Disabilities
- Economically Disadvantaged
- Individuals Preparing for Nontraditional Fields
- Single Parents , including Single Pregnant Women
- Displaced Homemakers
- Limited English Proficient
- Other Educational Barriers

CTE Standards & Frameworks



**Foundation
Standards**

**Pathway
Standards**

Frameworks

California CTE Model Curriculum Standards – the “WHAT”

- Nationally recognized
- Incorporate academic and workplace skills into the middle and high school curriculum
- Include 11 foundation standards that students need to master to succeed at CTE and work

Foundation Standards

1. Academics
2. Communications
3. Career Planning and Management
4. Technology
5. Problem Solving and Critical Thinking
6. Health and Safety
7. Responsibility and Flexibility
8. Ethics and Legal Responsibilities
9. Leadership and Teamwork
10. Technical Knowledge and Skills
11. Demonstration and Application

Framework - The “HOW”

- Provides guidance for implementing the CTE Model Curriculum Standards
- Provides context for the content delineated in the foundation and pathway standards
- Designed to facilitate the development of programs, courses, lessons, and assessments in CTE and provides information on important implementation issues.

a-g Subject Requirements

These letters represent different academic areas and are assigned to courses that have been certified by the state as meeting the criteria for students to be able to matriculate into the UC and CalState systems.

Alignment of CTE Curricula with a-g

In 2008, more than 5,600 CTE courses had been approved to satisfy the “a-g” requirements.

Most of the approved courses are in three areas: visual and performing arts, college-prep elective, and laboratory science.

The university systems and CDE offer guidance to CTE faculty about how to amend courses to meet the requirements.

Multiple Pathways

An instructional delivery system designed in such a way that high school students are engaged and prepared for numerous and varied educational and/or career options after high school.

Multiple Pathways Components:

- Challenging and rigorous academics
- Work-based Learning
- Comprehensive technical training
- Support services

Now being called *Linked Learning*

Regional Occupational Centers and Programs (ROCPs).

Established as regional programs or centers to allow students from multiple schools or districts to attend career technical training programs regardless of the geographic location of their residence in a county or region.

ROP (continued)

To prepare students to both pursue advanced education and to enter the workforce with skills and competencies necessary to succeed.

The programs are limited to those occupational areas with employment opportunities, postsecondary articulation, and sufficient student interest.

ROCP courses are open to all secondary and adult students with priority enrollment given to those ages 16–18 or in grades eleven and twelve.

ARTICULATION

The process of developing a formal, written, and published agreement that identifies courses (or sequences of courses) from a “sending” campus that are comparable to, or acceptable in lieu of, specific course requirements at a “receiving” campus.

ARTICULATION

Articulation ensures students and faculty that students have taken the appropriate courses...and that outcomes for students are similar to those that would have been attained had the course been taken at the community college. This enables a smooth progression to the next level of instruction at the receiving institution.

ARTICULATION

- Advancement within Certification
- Substitutions of Prerequisites
- Credit by Exam

From Career Technical Education & the Academic Senate presentation on 3/18/10

Tech Prep

Tech Prep programs link high school and two-year college programs in specific technical fields and occupational areas.

They are “planned sequences of study in technical fields or pathways beginning as early as grade 9 and linked to two or more years of postsecondary education or through an apprenticeship program of at least two years following secondary instruction.

The sequence culminates in an associate degree or a certificate.”

Tech Prep

Combining at least two years of high school CTE and academics with two years of postsecondary education, Tech Prep programs are designed to provide maximum preparation for higher-wage employment or continued education.

Work Experience Education

Combines an on-the-job component with related classroom instruction designed to maximize the value of on-the-job experiences.

Helps students explore careers, develop essential workplace skills such as the SCANS skills, and prepare for full-time employment; it is important in exposing students to both the requirements of a specific occupation and to “all aspects of an industry.”

Work Experience Education

General Work Experience

(job not related to instruction)

Exploratory Work Experience

(job-shadowing, service work)

Vocational Work Experience

(linked to career instruction)

Must be part of each district plan

Work-Based Learning

Is a key strategy for integrating academic and career technical education and ensuring that programs provide students the opportunity to meet high industry standards.

Offered at the secondary level through Work Experience Education, ROCPs, California Partnership Academies and other learning communities, and adult schools.

Generally focuses on career exploration and work readiness.

**Career
Academy
Requirement**

**JOBS &
INTERNSHIPS
CAN CROSS
PROGRAMS**

**SLC or Other
Requirements**

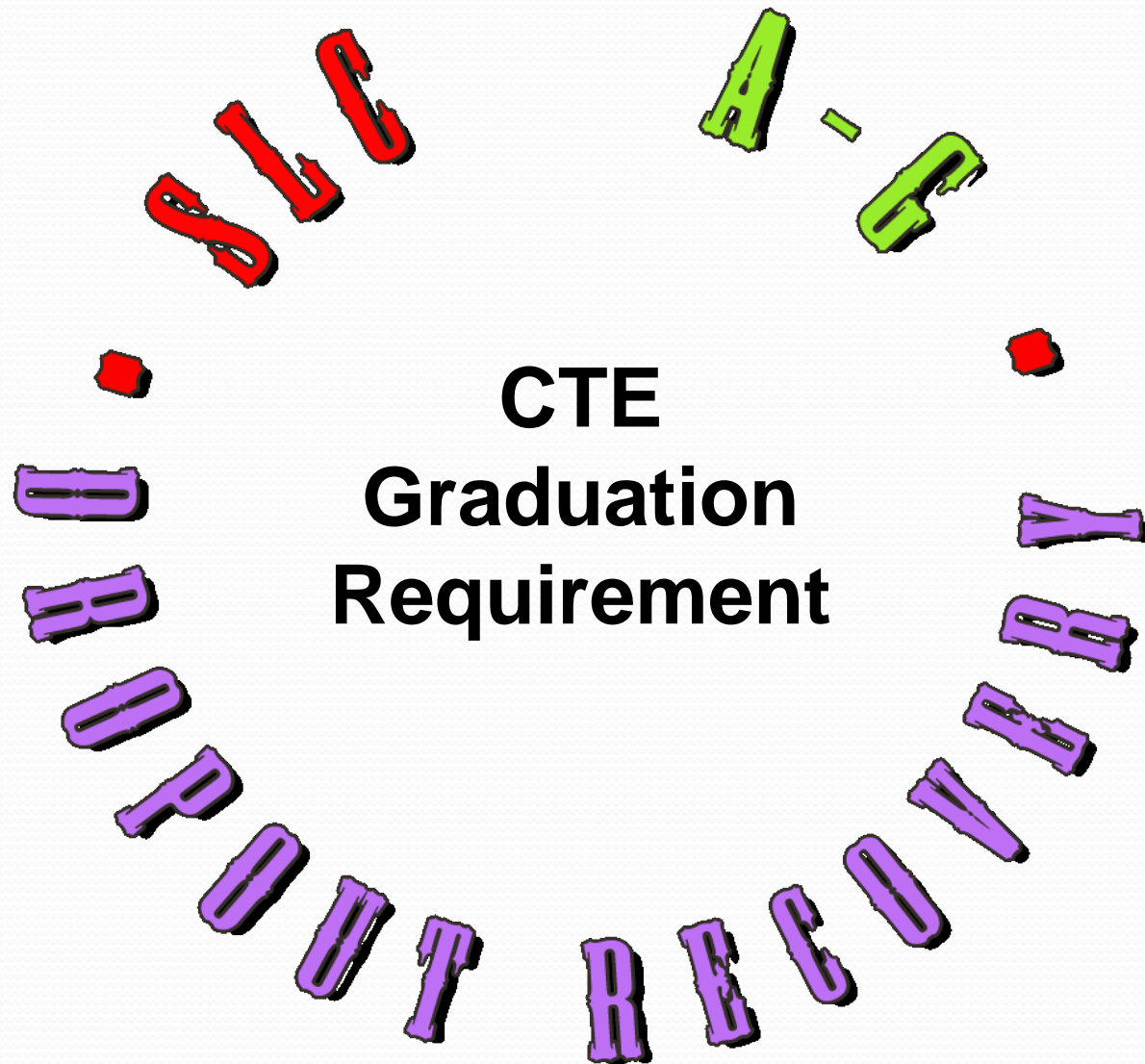
**CTE Pathways
Requirements**

**Work Experience
Education**

CTE Funding Streams

1. Perkins
2. Business Partner Match
3. Proposition 1D – CTE Facilities
4. California Partnership Academy (CPA)
5. Qualified Zone Academy Bonds (QZABs)
6. SB70
7. Other grants

Fitting CTE with Other District Initiatives



CTE & Employment Preparation Programs by Grade

MS	9th	10th	11th	12th	PS	
		CTE Classes/Career Pathways				
	Job Shadowing					
		Career Academies				
	Regional Occupational Programs & Centers					
		Work Experience Education (16+)				
			Tech-Prep Programs			
Career Locker, Career Cruising, Who do U Want 2 Be						
Real Game California, Career Choices						
	Summer Youth Employment Programs (14-21)					
	Workforce Investment Act					