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ARIZONA
CAREER & TECHNICAL EDUCATION

Program of Study

DEVELOPMENT
AND
IMPLEMENTATION GUIDE

June 2013

Arizona

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Program of Study Flow Chart

A national method of organizing occupations/careers in related groups for the purpose of developing career pathways and aiding the design of curriculum and instruction. Occupations/careers are grouped into the Career Clusters based on the fact they require a set of common knowledge and skills for career success. Nationally there are 16 recognized Career Clusters.

Career specific program option a student chooses within a CTE program or Cluster (also referred to as "options")

A secondary coherent sequence of instruction designed to deliver all State-designated program standards for any program on the CTE Program List. A program is directly related to preparing individuals for employment in an occupation or a pathway to postsecondary education. Approved and conditionally approved programs qualify to apply for State and Federal funding.

A comprehensive, structured approach for delivering academic and career and technical education to prepare students for post-secondary education and career success.

Education Career Action Plan that reflects a student's current plan of coursework, career aspirations, and extended learning opportunities in order to develop their individual academic and career goals. Effective for the graduation class of 2013, AZ State Board Rule (Administrative Code R7-2=302.05) requires that all schools complete for every student n grades 9-12 an ECAP prior to graduation.

Arizona Department of Education

FREQUENTLY ASKED QUESTIONS

1. **What is a Program of Study?**
   A Program of Study is a comprehensive, structured approach for delivering academic and career and technical education to prepare students for postsecondary education and career success.

2. **What should a Program of Study include?**
   The basic elements of a Program of Study are:
   - Secondary and postsecondary elements
   - Coherent and rigorous content aligned with challenging academic standards and relevant career and technical content
   - Opportunity for secondary students to participate in dual or concurrent enrollment courses or other ways to acquire postsecondary credit
   - Lead to an industry recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree

3. **What is a Rigorous Program of Study?**
   A Rigorous Program of Study is a comprehensive, structured approach for delivering academic and career and technical education to prepare students for postsecondary education and career success that **fully implements the ten components of the *Program of Study Design Framework.***

4. **What are the ten components of the Program of Study Design Framework?**
   - Legislation and Policies
   - Partnerships
   - Professional development
   - Accountability and Evaluation Systems
   - College and Career Readiness Standards
   - Course Sequences
   - Credit Transfer Agreements
   - Guidance Counseling and Academic Advisement
   - Teaching and Learning Strategies
   - Technical Skills Assessments

5. **How do Programs of Study differ from Tech Prep?**
   The primary function of Tech Prep was to align secondary CTE courses with postsecondary CTE courses, align curriculum, identify like instruction and facilitate articulation for credit. While these are still crucial functions for the success of Programs of Study, the concept of Programs of Study is a comprehensive approach to fully aligning all course instruction, academic and CTE, secondary and postsecondary, to ensure student success as they progress through the program without duplication of instruction or need for remediation.

6. **What is needed to establish a Program of Study (POS) Consortia?**
   All secondary Perkins recipients and Joint Technical Education Districts need to organize with their appropriate postsecondary community colleges for the purpose of establishing a Program of Study Consortia. Individual LEAs are not allowed to form a POS Consortia with a college. The postsecondary institution should be the primary institution from which students receive dual credit within the established Programs of Study. The structure will be similar to what has been experienced under the Tech Prep consortia with a leadership team represented by each consortia member and a consortia fiscal agent and consortia director.

7. **Can a school or POS Consortia work with more than one postsecondary partner to establish dual credit for Programs of Study?**
   Consortia are formed around the primary community college in its area that will be granting dual credit to the students, but the schools and consortia are allowed to work with other colleges and universities in order to develop dual credit agreements for programs that the local community college doesn't offer. An LEA should belong to the Program of Study consortia that the primary consortia college is in.

8. **What are the benefits of belonging to a Program of Study consortia?**
   Belonging to a POS consortium will provide a variety of economies of scale and synergies that may not be available outside of a consortium. Working with the businesses, colleges, academic contacts, and other partners in your consortia area is an example. Providing professional development opportunities and management of the Programs of Study process such as maintaining existing agreements are additional examples.

9. **How does a Program of Study differ from ECAP?**
   Programs of Study identify recommended academic, elective and CTE courses, both secondary and postsecondary. POS outlines exit points at the program level. ECAP is the student's individual plan that identifies career choice, and courses the student should take during high school. Students enrolled in a Program of Study should have an ECAP that consists of the recommended course sequence reflected in the Program of Study. The Program of Study template should be used as a guidance tool when preparing a student's ECAP.

10. **Do all CTE Programs have to be Programs of Study?**
    Not at this time. However, it is anticipated that the reauthorization of Perkins legislation will have a great emphasis on Programs of Study and RPOS.

11. **How many POS must an eligible recipient have in place?**
    Current Perkins legislation requires all eligible recipients have at least one Program of Study in place. It is highly encouraged that CTE consortia develop multiple Programs of Study.

12. **Who should be involved in developing a Program of Study?**
    All stakeholders should be involved in the development of a Program of Study. Secondary, Postsecondary, Tech Prep, business and industry partners, guidance counseling, postsecondary advisement, faculty and administration should be involved. Partnerships are crucial; it is not possible to develop a successful Program of Study in isolation.

13. **How do Programs of Study affect Perkins Local Plan applications?**
    All eligible recipients must have objectives that address the development of at least one Program of Study in order to have an approved Perkins application.

14. **What are acceptable Perkins expenditures for Programs of Study?**
    This booklet contains guidelines for the expenditure of these funds. In general, funds simply need to be spent for activities that assist in the development of the Programs of Study selected. These funds are not to be spent on any equipment purchases.

15. **Does each Program of Study consortia need to establish a fiscal agent and consortia director?**
    Each consortium must eventually establish a method of operating as a group in order to establish common Programs of Study and to report to the Arizona Department of Education/Career & Technical Education Division regarding those activities. This will require a consortia director and perhaps a fiscal agent.

16. **How are Programs of Study maintained?**
    Programs of Study must be evaluated annually to ensure that curricula are aligned, credit agreements are intact, and teacher certifications are current. The Program of Study consortia are expected to make this a part of their annual operations.

18. Why do Programs of Study?

- *Programs of Study lend relevance to academic learning by aligning with CTE courses;*
- *They encourage students to enroll in appropriate academic courses that support their career goals;*
- *They provide much needed linkages between academic courses and CTE;*
- *They provide much needed linkages between secondary and postsecondary opportunities;*
- *Perkins IV requires the development and implementation of Programs of Study and it is anticipated that Perkins will have a great emphasis on Programs of Study*

Steps for Establishing a Program of Study

Step 1: Establish Consortia Partnership

- Identify Stakeholders
    - Secondary Partners
    - Postsecondary Partners (to establish dual credit agreements)
    - Consortia Director (to communicate to ADE and the consortia members)
    - Fiscal agent (to handle any pooled funds if needed)
    - Business and Industry Partners
    - Previous Tech Prep Consortia members
    - Other Stakeholders

Step 2: Build the Program of Study Foundation

- Working within Partnership identify the appropriate career pathway
    - Determine what Program of Study is needed
        - Consider Labor Market data
        - Consider established approved programs
        - Consider criteria for establishing a new program
        - Consider previous work accomplished through Tech Prep
    - Identify the CTE Secondary Program
        - must be on CTE List
        - must meet the 8 elements of an approved CTE program
        - must lead to a postsecondary credential
    - Establish desired outcome/exit point (ideally, POS will have multiple exit points)
        - Certification
        - Licensure
        - Degree

Step 3: Design the Program of Study

- Determine the course sequence for the Program of Study
    - Consider the required sequence for a approved secondary CTE program
        - Refer to the CTE Handbook Codes and Titles List: http://www.azed.gov/career-technical-education/handbooksguidelines/
        - Refer to the definition on an approved secondary CTE program
    - Consider the postsecondary course requirements for the identified licensure, certifications or degrees
    - Consider the postsecondary academic requirements for completion of the identified licensure, certifications or degrees
    - Consider the secondary academic requirements for
        - High school graduation
        - College admission
        - College success without remediation
    - Consider the secondary elective options
    - Select recommended academic and elective courses that will meet secondary graduation, college admission, and successfully prepare student for postsecondary required coursework without remediation
- Map out identified course work
    - Using the Program of Study Template, map out the identified

        - Secondary CTE courses
        - Secondary academic courses
        - Secondary recommended electives
        - Postsecondary required CTE courses
        - Postsecondary required academic courses
        - Postsecondary required/recommended electives
        - Potential licensure, certifications and/or degrees
        - Identify appropriate assessment points
        - Sign Template
- Align secondary and postsecondary curriculum for identified CTE courses
    - Utilizing the Tech Prep curricular flow process or other established curricular alignment process
        - Align secondary CTE standards and instruction with postsecondary course objectives and instruction
        - Determine over-lap in equivalent instruction
        - Determine certification requirements for secondary teachers to qualify to instruct dual enrollment courses

Step 4: Develop articulation/dual enrollments

- Review credit options for secondary students in order to avoid duplication of course work when student transitions to postsecondary to continue the Program of Study
    - Consider all course work that is duplicate instruction
    - Determine the amount of credit students may earn in the secondary portion of the Program of Study
    - Consider certification requirements for secondary teachers to qualify to instruct dual enrollment courses
    - Consider financial arrangements
- Construct a formal agreement following local policy that will allow secondary students to earn appropriate postsecondary credit

Step 5: Implement the Program of Study

- Plan marketing and recruitment materials and activities
- Work closely with school Guidance and Counseling partners to ensure counselors understand the Program of Study and how to use the Program of Study Templates as a guidance tool in help students establish their Education Career Action Plan (ECAP)
- Develop a strategy with Guidance and Counseling to ensure students participating in the Program of Study are enrolled in the recommended academic, elective and CTE courses
- Develop a strategy to ensure students understand the importance of completing the recommended sequence of courses
- Develop a strategy to ensure that student participate in the dual credit opportunity
- Develop a strategy for informing parents about the Program of Study and the dual credit opportunities

Step 6: Assessments

- Develop a strategy for administering college placement assessment at the point of greatest impact
- Ensure that all Program of Study students take the CTE end of program Technical Assessment in the last semester of the final secondary CTE course
- Identify postsecondary assessment for credentialing

Step 7: Evaluating and Improving the Program of Study

- Develop a joint secondary/postsecondary advisory board
- Consider the ten components of the Program of Study Design Framework and develop a plan to fully implement all ten components in order to be considered a "Rigorous Program of Study"
- Develop a process for annually evaluating the Program of Study
- Set benchmarks for improvement
- Involve all partners and stakeholders in the evaluation and improvement strategy
- Adopt and evaluation rubric to be used annually in order to document longitudinal progress

Arizona Career and Technical Education Program of Study

High School: _____ **Postsecondary Institution:** _____

Secondary CTE Program: _____ **Postsecondary Program:** _____

Secondary CIP Code: _____ **Postsecondary CIP Code:** _____

	GRADE	CTE Secondary courses and Postsecondary major courses and CTSOs	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	Other required courses/electives	Postsecondary degree or certificate associated with this Program of Study
SECONDARY	9							
	Administer Arizona's Instrument for Measuring Standards (AIMS) 10th Grade.							
	10							
	Administer college course placement assessments. Conduct academic/career advising. Identify and implement additional preparation strategies.							
	11							
	12							
Administer Arizona's CTE Technical Skills Assessment.								
POSTSECONDARY	Year 1 1st Semester							
	Year 1 2nd Semester							
	Year 2 1st Semester							
	Year 2 2nd Semester							

Required Courses	**Recommended Elective Courses**
Career and Technical Education Courses	**Credit-Based Transition Programs (e.g. Dual, Concurrent or Reverse Enrollment)**

CTE Director: _____ Date _____

Postsecondary: _____ Date _____

RPOS POS form 1-25-12

Program of Study
Education and Training
Partnership Roles and Responsibilities

Below is a sample Partnership Roles and Responsibilities agreement. The partnerships, roles and responsibilities listed are only examples, not requirements. Partnerships, roles and responsibilities should be developed to meet the need of the local Program of Study.

Partnership Categories	Participating Partnerships	Roles and Responsibilities
Postsecondary Institution	College Name	• Participates in course sequencing for POS • Participates in curricular flow and course alignment activities • Participates in curriculum alignment activities • Provides dual enrollment with for secondary students Programs of Study • Oversees placement evaluation for dual enrollment students • Evaluates dual enrollment courses for quality • Evaluates credentials and makes decisions on adjunct faculty certification for secondary teachers • Serves on joint advisory boards for Program of Study • Provides on college campus opportunities for students to become acquainted with campus and on campus instruction • Submit technical skill attainment data
Secondary Schools	School District	• Participates in course sequencing for POS • Participates in curricular flow and course alignment activities • Participates in curriculum alignment activities • Ensures appropriate sequence of courses is taught • Ensures industry standards are taught • Provides CTSO activities • Ensures CTE program meets the elements of an approved program • Develops strategy for working with Guidance and Counseling • Participates in Professional Development activities • Ensures students take Technical Assessment
University	Name of University	• Provides articulation between community college and university • Provides information for continuing education • Provides on campus experiences for students

SAMPLE

RPOS Partnership Roles and Responsibilities

		• Provides scholarship opportunities
Business and Industry	Name of Business	• Serves on advisory boards • Provide industry specific professional development opportunities • Provides work based opportunities for students • Assist with program evaluation
Public Agencies and Initiatives	Name of Agency or Initiative	• Provide guidance for implementation • Provide guidance for ensuring programs comply with regulations, board standards etc. • Participate on advisory boards • Provide grant funding or scholarship opportunities • Provide content specific professional development

Signatures: signature indicates that each partner is willing to fulfill the responsibilities indicated.

Example Community College: _____ Title:_____ Date:_____

Example Unified School District: _____ Title:_____ Date:_____

Example Unified School District: _____ Title:_____ Date:_____

Example Unified School District: _____ Title:_____ Date:_____

Example University: _____ Title:_____ Date:_____

Example Business: ___ _____ Title: _____ Date:_____

Example Public Agency: _____ Title: _____ Date: _____

2013 - 2014 Programs and Required Course Sequence rev07-02-13

52.0300.00	**Accounting and Related Services**
52.0300.10	Introduction to Business and Accounting
	-and-
52.0300.20	Basic Accounting
	And program may elect to add:
52.0300.30	Advanced Accounting
	-or-
52.0300.75	Accounting - Internship
	-or-
52.0300.80	Accounting - Cooperative Education
46.0400.20	**Advanced Construction Technologies**
46.0400.10	Construction Technologies Core Curriculum
	-and-
46.0400.20	Advanced Construction Technologies
	And program may elect to add:
46.0400.75	Construction Technologies - Internship
	-or-
46.0400.80	Construction Technologies -Cooperative Education
52.1800.30	**Advertising and Public Relations**
52.1800.10	Fundamentals of Marketing, Management and Entrepreneurship
	-and-
52.1800.30	Advertising and Public Relations
	And program may elect to add:
52.1800.75	Marketing, Management and Entrepreneurship
	-or-
52.1800.80	Marketing, Management and Entrepreneurship Cooperative Education
01.0100.90	**Agribusiness Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.90	Agribusiness Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	-or-
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
49.0100.00	**Air Transportation**
49.0100.10	Air Transportation I
	-and-
49.0100.20	Air Transportation II
	-and-
47.0600.50	Aircraft Mechanics I
	-and-
47.0600.55	Aircraft Mechanics II
	And program may elect to add:
47.0600.75	Transportation Technologies - Internship
	-or-
47.0600.80	Transportation Technologies - Cooperative Education

47.0600.50	**Aircraft Mechanics**
47.0600.10	Transportation Technologies Core Curriculum
	-and-
47.0600.50	Aircraft Mechanics I
	-or-
47.0600.55	Aircraft Mechanics II
	And program may elect to add:
47.0600.75	Transportation Technologies - Internship
	-or-
47.0600.80	Transportation Technologies - Cooperative Education
01.0100.40	**Animal Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.40	Animal Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	-or-
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
10.0200.60	**Animation**
10.0200.10	Communication Media Technologies Fundamentals
	-and-
10.0200.60	Animation I
	-and-
10.0200.65	Animation II
	-or-
10.0200.20	Digital Printing I
	-or-
10.0200.30	Graphics/Web Design I
	-or-
10.0200.40	Journalism I
	-or-
10.0200.50	Photography I
	-or-
10.0200.90	Film & TV I
	-or-
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies - Internship
	-or-
10.0200.80	Communications Media Technologies - Cooperative Education
15.1300.20	**Architectual Drafting**
15.1300.10	Fundamentals of Drafting and Design Technologies
	-and-
15.1300.20	Architectural Drafting
	And program may elect to add:
15.1300.75	Drafting and Design Technologies -Internship
	-or-
15.1300.80	Drafting and Design Technologies - Cooperative Education

50.0500.30	**Arts Management**
50.0500.30	Fundamentals of Performing Arts and Entertainment Industry - Arts Management
	-and-
50.0500.35	Performing Arts and Entertainment Industry - Arts Management I
	And program may elect to add:
50.0500.36	Performing Arts and Entertainment Industry - Arts Management II
	And program may elect to add:
50.0500.75	Performing Arts and Entertainment Industry - Internship
	-or-
50.0500.80	Performing Arts and Entertainment Industry - Cooperative Education
48.0500.20	**Automation/Robotics**
48.0500.10	Fundamentals of Precision Manufacturing
	-and-
48.0500.12	Applications of Precision Manufacturing
	-and-
48.0500.20	Automation/Robotics
	And program may elect to add:
48.0500.75	Precision Manufacturing - Internship
48.0500.80	Precision Manufacturing -Cooperative Education
47.0600.30	**Automotive Collison Repair**
47.0600.10	Transportation Technologies Core Curriculum
	-and-
47.0600.30	Automotive Collison Repair I
	-and-
47.0600.35	Automotive Collision Repair II
	And program may elect to add:
47.0600.75	Transportation Technologies - Internship
47.0600.80	Transportation Technologies -Cooperative Education
47.0600.20	**Automotive Technologies**
47.0600.10	Transportation Technologies Core Curriculum
	-and-
47.0600.20	Automotive Technologies I
	-and-
47.0600.25	Automotive Technologies II
	And program may elect to add:
47.0600.75	Transportation Technologies - Internship
47.0600.80	Transportation Technologies - Cooperative Education
41.0100.00	**Bioscience**
41.0100.10	Introduction to Bioscience
	-and-
41.0100.20	Bioscience Technologies
	And program may elect to add:
41.0100.75	Bioscience - Internship
	-or-
41.0100.80	Bioscience - Cooperative Education

52.0200.00	**Business Management and Adminstrative Services**
52.0200.10	Introduction to Business Management and Administrative Services
	-and-
52.0200.20	Basic Business Management and Administrative Services
	And program may elect to add:
52.0200.30	Advanced Business Management and Administrative Services
	-and-
52.0200.75	Business Management and Adminstrative Services -Internship
	-or-
52.0200.80	Business Management and Administrative Services - Cooperative Education
52.0400.00	**Business Operations Support and Assistant Services**
52.0400.10	Fundmentals of Business Operations Support and Assistant Services
	-and-
52.0400.20	Advanced Business Operations Support and Assistant Services
	And program may elect to add:
52.0400.75	Business Operations Support and Assistant Services- Internship
	--or--
52.0400.80	Business Operations Support and Assistant Services- Cooperative Education
46.0400.40	**Cabinetmaking**
46.0400.10	Construction Technologies Core Curriculum
	-and-
46.0400.40	Cabinetmaking
	And program may elect to add:
46.0400.75	Construction Technologies - Internship
	-or-
46.0400.80	Construction Technologies - Cooperative Education
46.044.30	**Carpentry**
46.0400.10	Construction Technologies Core Curriculum
	-and-
46.0400.10	Carpentry
	And program may elect to add:
46.0400.75	Construction Technologies -Internship
	-or-
46.0400.80	Construction Technologies - Cooperative Education
15.1200.20	**Computer Maintenance**
15.1200.10	Fundamentals of Information Technologies
	-and-
15.1200.20	Computer Maintenance
	And program may elect to add:
15.1200.75	Information Technologies - Internship
	--or--
15.1200.80	Information Technologies - Cooperative Education
12.0400.00	**Cosmetology**
12.0400.10	Fundamentals of Cosmetology
	-and-
12.0400.20	Cosmetology - Advanced Applications
	And program may elect to add:
12.0400.75	Cosmetology - Internship
	--or--
12.0400.80	Cosmetology - Cooperative Education

12.0500.00	**Culinary Arts**
12.0500.10	Fundamentals of Culinary Arts
	-and-
12.0500.20	Culinary Arts Applications
	And program may elect to add:
12.0500.75	Culinary Arts - Internship
	--or--
12.0500.80	Culinary Arts - Cooperative Education
51.0600.00	**Dental Assisting**
51.0600.10	Fundamentals of Dental Assisting
	-and-
51.0600.20	Dental Assisting - Advanced Applications
	And program may elect to add:
51.0600.75	Dental Assisting - Internship
	--or--
51.0600.80	Dental Assisting - Cooperative Education
47.0600.40	**Diesel Engine Repair**
47.0600.10	Transportation Technologies Core Curriculum
	-and-
47.0600.40	Diesel Engine Repair I
	-and-
47.0600.45	Diesel Engine Repair II
	And program may elect to add:
47.0600.75	Transportation Technologies - Internship
	--or--
47.0600.80	Transportation Technologies - Cooperative Education
10.0200.50	**Digital Photography**
10.0200.10	Communication Media Technologies Fundamentals
	-and-
10.0200.50	Digital Photography I
	-and-
10.0200.55	Digital Photography II
	--or--
10.0200.20	Digital Printing I
	--or--
10.0200.30	Graphics/Web Design I
	--or--
10.0200.40	Journalism I
	--or--
10.0200.60	Animation I
	--or--
10.0200.90	Film & TV 1
	--or--
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education

10.0200.20	**Digital Printing**
10.0200.10	Media Technology Fundamentals
	-and-
10.0200.20	Digital Printing I
	-and-
10.0200.25	Digital Printing II
	--or--
10.0200.30	Graphics/Web Design I
	--or--
10.0200.40	Journalism I
	--or--
10.0200.50	Photography I
	--or--
10.0200.60	Animation I
	--or--
10.0200.90	Film & TV 1
	--or--
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education
13.1210.00	**Early Childhood Education**
13.1210.10	Fundamentals of Early Childhood Education
	-and-
13.1210.20	Early Childhood Education Applications
	And program may elect to add:
13.1210.75	Early Childhood Education - Internship
	--or--
13.1210.80	Early Childhood Education - Cooperative Education
13.1200.00	**Education Professions**
13.1200.10	Education Professions Fundamentals
	-and-
13.1200.20	Education Professions Applications
	And program may elect to add:
13.1200.75	Education Professions - Internship
	--or--
13.1200.80	Education Professions - Cooperative Education
15.1300.30	**Electronic Drafting**
15.1300.10	Fundamentals of Drafting and Design Technologies
	-and-
15.1300.30	Electronic Drafting
	And program may elect to add:
15.1300.75	**Drafting and Design Technologies - Internship**
	--or--
15.1300.80	Drafting and Design Technologies - Cooperative Education

15.0300.00	**Electronic Technologies**
15.0300.10	Electronic Technologies Core Curriculum
	-and-
15.0300.20	Electricity Principles and Applications
	-and-
15.0300.25	Electronic Principles and Applications
	And program may elect to add:
15.0300.75	Electronic Technologies - Internship
	--or--
15.0300.80	Electronic Technologies - Cooperative Education
51.0900.30	**Emergency Medical Services**
51.0900.30	Fundamentals of Emergency Medical Services
	-and-
51.0900.35	Emergency Medical Services - Advanced Applications
	And program may elect to add:
51.0900.75	Diagnostic and Intervention Technologies - Internship
	--or--
51.0900.80	Diagnostic and Intervention Technologies - Cooperative Education
15.0000.00	**Engineering Sciences**
15.0000.10	Fundamentals to Explore Engineering Sciences
	--or--
15.0000.11	Algebra II -or- above Math Course (course may be taken simultaneously with 15.0000.20)
	-and-
15.0000.20	Applications of Problem Solving in Engineering Sciences
	-and-
15.0000.30	Advanced Engineering Sciences
	And program may elect to add:
15.0000.75	Engineering Sciences - Internship
	--or--
15.0000.80	Engineering Sciences - Cooperative Education
52.1800.40	**Entertainment Marketing**
52.1800.10	Fundamentals of Marketing, Management and Entrepreneurship
	-and-
52.1800.40	Entertainment Marketing
	And program may elect to add:
52.1800.75	Marketing, Management and Entrepreneurship Internship
	--or--
52.1800.80	Marketing, Management and Entrepreneurship Cooperative Education
52.1800.50	**Entrepreneurship**
52.1800.10	Fundamentals of Marketing, Management and Entrepreneurship
	-and-
52.1800.50	Entrepreneurship
	And program may elect to add:
52.1800.75	Marketing, Management and Entrepreneurship Internship
	--or--
52.1800.80	Marketing, Management and Entrepreneurship Cooperative Education

01.0100.00	**Environmental Service Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.00	Environmental Service Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	--or--
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
52.1900.20	**Fashion Design and Merchandising**
52.1900.10	Fundamentals of Design and Merchandising
	-and-
52.1900.20	Fashion Design and Merchandising Applications
	And program may elect to add:
52.1900.75	Design and Merchandising - Internship
	--or--
52.1900.80	Design and Merchandising - Cooperative Education
10.0200.90	**Film & TV**
10.0200.10	Communication Media Technologies Fundamentals
	-and-
10.0200.90	Film & TV I
	-and-
10.0200.95	Film & TV II
	--or--
10.0200.20	Digital Printing I
	--or--
10.0200.30	Graphics/Web Design I
	--or--
10.0200.40	Journalism I
	--or--
10.0200.50	Photography I
	--or--
10.0200.60	Animation I
	--or--
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education

52.0800.00	**Financial Services**
52.0800.10	Introduction to Business and Financial Services
	-and-
52.0800.20	Basic Financial Services
	-and-
	And program may elect to add:
52.0800.30	Advanced Financial Services
	--or--
52.0800.75	Financial Services - Internship
	--or--
52.0800.80	Financial Services - Cooperative Education
43.0200.00	**Fire Service**
43.0200.10	Fundamentals of Fire Service
	-and-
43.0200.20	Fire Service - Advanced Applications
	And program may elect to add:
43.0200.75	Fire Service- Internship
	--or--
43.0200.80	Fire Service- Cooperative Education
01.0100.20	**Food Products and Processing Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.20	Food Products and Processing Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	--or--
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
10.0200.30	**Graphic/Web Design**
10.0200.10	Media Technology Fundamentals
	-and-
I10.0200.30	Graphic/Web Design I
	-and-
10.0200.35	Graphic/Web Design II
	--or--
10.0200.20	Digital Printing I
	--or--
10.0200.40	Journalism I
	--or--
10.0200.50	Photography I
	--or--
10.0200.60	Animation I
	--or--
10.0200.90	Film & TV 1
	--or--
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education

47.0200.00	**Heating, Ventilation and Air Conditioning**
47.0200.10	Heating, Ventilation and Air Conditioning I
	-and-
47.0200.20	Heating, Ventilation and Air Conditioning II
	And program may elect to add:
47.0200.75	Heating, Ventilation and Air Conditioning - Internship
	--or--
47.0200.80	Heating, Ventilation and Air Conditioning - Cooperative Education
49.0200.00	**Heavy Equipment Operations**
49.0200.10	Heavy Equipment Operations I
	-and-
49.0200.20	Heavy Equipment Operations II
	And program may elect to add:
49.0200.75	Heavy Equipment Operations - Internship
	--or--
49.0200.80	Heavy Equipment Operations - Cooperative Education
47.0300.00	**Heavy/Industrial Equipment Maintenance Technologies**
47.0300.10	Heavy/Industrial Equipment Maintenance Tech Core Curriculum
	-and-
47.0300.20	Heavy/Industrial Equipment Maintenance Tech I
	-and-
47.0300.25	Heavy/Industrial Equipment Maintenance Tech II
	And program may elect to add:
47.0300.75	Heavy/Industrial Equipment Maintenance Tech - Internship
	--or--
47.0300.80	Heavy/Industrial Equipment Maintenance Tech - Cooperative Education
52.0900.00	**Hospitality Management**
52.0900.10	Fundamentals of Hospitality Management
	-and-
52.0900.20	Hospitality Management Applications
	And program may elect to add:
52.0900.75	Hospitality Management - Internship
	--or--
52.0900.80	Hospitality Management - Cooperative Education
46.0300.30	**Industrial Electrician**
46.0300.10	Fundamentals of Electrical and Power Transmission Technologies
	-and-
46.0300.30	Industrial Electrician
	And program may elect to add:
46.0300.75	Electrical and Power Transmission Technologies Internship
	--or--
46.0300.80	Electrical and Power Transmission Technologies - Cooperative Education
52.1900.30	**Interior- Design and Merchandising**
52.1900.10	Fundamentals of Design and Merchandising
	-and-
52.1900.30	Interior- Design and Merchandising Applications
	And program may elect to add:
52.1900.75	Design and Merchandising - Internship
	--or--
52.1900.80	Design and Merchandising - Cooperative Education

10.0200.40	**Journalism**
10.0200.10	Media Technology Fundamentals
	-and-
10.0200.40	Journalism I
	-and-
10.0200.45	Journalism II
	--or--
10.0200.20	Digital Printing I
	--or--
10.0200.30	Graphics/Web Design I
	--or--
10.0200.50	Photography I
	--or--
10.0200.60	Animation I
	--or--
10.0200.90	Film & TV 1
	--or--
10.0200.00	Music and Audio Production I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education
51.0800.30	**Laboratory Assisting**
51.0800.10	Fundamentals of Allied Health
	-and-
51.0800.30	Laboratory Assisting
	And program may elect to add:
51.0800.75	Allied Health - Internship
	--or--
51.0800.80	Allied Health - Cooperative Education
43.0100.00	**Law, Public Safety and Security**
43.0100.10	Fundamentals of Law, Public Safety and Security
	-and-
43.0100.20	Law, Public Safety and Security - Advanced Applications
	And program may elect to add:
43.0100.75	Law, Public Safety and Security - Internship
	--or--
43.0100.80	Law, Public Safety and Security - Cooperative Education
15.1300.40	**Mechanical Drafting**
15.1300.10	Fundamentals of Drafting and Design Technologies
	-and-
15.1300.40	Mechanical Drafting
	And program may elect to add:
15.1300.75	Drafting and Design Technologies - Internship
	--or--
15.1300.80	Drafting and Design Technologies - Cooperative Education

51.0800.60	**Medical Assisting Services**
51.0800.10	Fundamentals of Allied Health
	-and-
51.0800.60	Medical Assisting Services
	And program may elect to add:
51.0800.75	Allied Health - Internship
	--or--
51.0800.80	Allied Health - Cooperative Education
51.0800.40	**Medical Imaging Support Services**
51.0800.10	Fundamentals of Allied Health
	-and-
51.0800.40	Medical Imaging Support Services
	And program may elect to add:
51.0800.75	Allied Health - Internship
	--or--
51.0800.80	Allied Health - Cooperative Education
51.1500.00	**Mental and Social Health Services (Standards to be developed)**
51.1500.10	Fundamentals of Mental and Social Health Services
	-and-
51.1500.20	Mental and Social Health Services - Advanced Applications
	And program may elect to add:
51.1500.75	Mental and Social Health Services - Internship
	--or--
51.1500.80	Mental and Social Health Services - Cooperative Education
10.0200.00	**Music/Audio Production**
10.0200.10	Media Technology Fundamentals
	-and-
10.0200.00	Music/Audio Production I
	-and-
10.0200.05	Music/Audio Production II
	--or--
10.0200.20	Digital Printing I
	--or--
10.0200.30	Graphics/Web Design I
	--or--
10.0200.40	Journalism I
	--or--
10.0200.50	Photography I
	--or--
10.0200.60	Animation I
	--or--
10.0200.90	Film & TV I
	And program may elect to add:
10.0200.75	Communications Media Technologies – Internship
	--or--
10.0200.80	Communications Media Technologies –Cooperative Education

01.0100.50	**Natural Renewable Resources Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.50	Natural Renewable Resources Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	--or--
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
15.1200.00	**Network Technologies**
15.1200.10	Fundamentals of Information Technologies
	-and-
15.1200.30	Network Technologies
	And program may elect to add:
15.1200.75	Information Technologies - Internship
	--or--
15.1200.80	Information Technologies - Cooperative Education
51.3900.00	**Nursing Services**
51. 3900.10	Fundamentals of Nursing Services
	-and-
51.3900.20	Nursing Services - Advanced Applications
	And program may elect to add:
51.3900.75	Nursing Services - Internship
	--or--
51.3900.80	Nursing Services - Cooperative Education
51.0800.20	**Pharmacy Support Services**
51.0800.10	Fundamentals of Allied Health
	-and-
51.0800.20	Pharmacy Support Services
	And program may elect to add:
51.0800.75	Allied Health - Internship
	--or--
51.0800.80	Allied Health - Cooperative Education
01.0100.30	**Plant Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.30	Plant Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	--or--
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education

01.0100.60	**Power, Structural and Technical Systems**
01.0100.10	Agricultural Business Management - Introduction to Applied Biological Systems
	-and-
01.0100.12	Agricultural Business Management - Applied Biological Systems
	-and-
01.0100.14	Agricultural Business Management - Agriscience
	-and-
01.0100.60	Power, Structural and Technical Systems
	And program may elect to add:
01.0100.75	Agricultural Business Management - Agriscience - Internship
	--or--
01.0100.80	Agricultural Business Management - Agriscience - Cooperative Education
48.0500.30	**Precision Machining**
48.0500.10	Fundamentals of Precision Manufacturing
	-and-
48.0500.12	Applications of Precision Manufacturing
	-and-
48.0500.30	Precision Machining
	And program may elect to add:
48.0500.75	Precision Manufacturing - Internship
	--or--
48.0500.80	Precision Manufacturing - Cooperative Education
52.1800.20	**Professional Sales and Marketing**
52.1800.10	Fundamentals of Marketing, Management and Entrepreneurship
	-and-
52.1800.20	Professional Sales and Marketing
	And program may elect to add:
52.1800.75	Marketing, Management and Entrepreneurship Internship
	--or--
52.1800.80	Marketing, Management and Entrepreneurship Cooperative Education
46.0300.20	**Residential Electrician**
46.0300.10	Fundamentals of Electrical and Power Transmission Technologies
	-and-
46.0300.20	Residential Electrician
	And program may elect to add:
46.0300.75	Electrical and Power Transmission Technologies Internship
	--or--
46.0300.80	Electrical and Power Transmission Technologies - Cooperative Education
51.0900.20	**Respiratory Therapy Technician**
51.0900.10	Fundamentals of Respiratory Therapy Technician
	-and-
51.0900.20	Respiratory Therapy Technician - Advanced Applications
	And program may elect to add:
51.0900.75	Diagnostic and Intervention Technologies - Internship
	--or--
51.0900.80	Diagnostic and Intervention Technologies - Cooperative Education

15.1200.40	**Software Development**
15.1200.10	Fundamentals of Information Technologies
	-and-
15.1200.40	Software Development
	And program may elect to add:
15.1200.75	Information Technologies - Internship
	--or--
15.1200.80	Information Technologies - Cooperative Education
51.0800.50	**Sports Medicine and Rehabilitation Services**
51.0800.10	Fundamentals of Allied Health
	-and-
51.0800.50	Sports Medicine and Rehabilitation Services
	--or--
	And program may elect to add:
51.0800.75	Allied Health - Internship
	--or--
51.0800.80	Allied Health - Cooperative Education
51.0900.40	**Surgical Technician**
51.0900.40	Fundamentals of Surgical Technician
	-and-
51.0900.45	Surgical Technician - Advanced Applications
	And program may elect to add:
51.0900.75	Diagnostic and Intervention Technologies - Internship
	--or--
51.0900.80	Diagnostic and Intervention Technologies - Cooperative Education
50.0500.20	**Technical Theatre**
50.0500.20	Fundamentals of Performing Arts and Entertainment Industry - Technical Theatare
	-and-
50.0500.25	Performing Arts and Entertainment Industry - Technical Theatare I
	And program may elect to add:
50.0500.26	Performing Arts and Entertainment Industry - Technical Theatare II
	--or--
50.0500.75	Performing Arts and Entertainment Industry - Internship
	--or--
50.0500.80	Performing Arts and Entertainment Industry - Cooperative Education
51.3500.00	**Therapeutic Massage**
51.3500.10	Fundamentals of Therapeutic Massage
	-and-
51.3500.20	Therapeutic Massage - Advanced Applications
	And program may elect to add:
51.3500.75	Therapeutic Massage - Internship
	--or--
51.3500.80	Therapeutic Massage - Cooperative Education

15.1200.50	**Web Page Development**
15.1200.10	Fundamentals of Information Technologies
	-and-
15.1200.50	Web Page Development
	And program may elect to add:
15.1200.75	Information Technologies - Internship
	--or--
15.1200.80	Information Technologies - Cooperative Education
48.0508.00	**Welding Technologies**
48.0508.10	Welding Technologies Core Curriculum
	-and-
48.0508.20	Welding Technologies
	And program may elect to add:
48.0508.75	Welding Technologies - Internship
	--or--
48.0508.80	Welding Technologies - Cooperative Education

Local CTE Program Codes and Titles

Programs from this point forward meet local occupational need. Districts must show local need, outcomes, and approved program elements by submitting a "Proposed Occupational Program Request" form.

Request form is located at: **http//www.azed.gov/career-technical-education/forms/**

28.0101.00	**Airforce JROTC**
28.0101.10	Airforce JROTC I
	-and-
28.0101.20	Airforce JROTC II
	And program may elect to add:
28.0101.75	Airforce JROTC - Internship
	--or--
28.0301.80	Army JROTC - Cooperative Education
28.0301.00	**Army JROTC**
28.0301.10	Army JROTC I
	-and-
28.0301.20	Army JROTC II
	And program may elect to add:
28.0301.75	Army JROTC - Internship
	--or--
28.0301.80	Army JROTC - Cooperataive Education
28.0401.00	**Navy/Marine Corp JROTC**
28.0401.10	Navy/Marine Corp JROTC I
	-and-
28.0401.20	Navy/Marine Corp JROTC II
	And program may elect to add:
28.0401.75	Navy/Marine Corp JROTC - Internship
	--or--
28.0401.80	Navy/Marine Corp JROTC - Cooperative Education
15.0506.00	**Environmental Control Technologies Water Operator**
15.0506.10	Environmental Control Technologies Water Operator I
	-and-
15.0506.20	Environmental Control Technologies Water Operator II
	And program may elect to add:
15.0506.75	Environmental Control Technologies Water Operator - Internship
	--or--
15.0506.80	Environmental Control Technologies Water Operator - Cooperative Education
51.0808.00	**Veterinary/Animal Health Technician/Veterinary Assistant**
51.0808.10	Veterninary/Animal Health Technician/Veterinary Assistant I
	-and-
51.0808.20	Veterninary/Animal Health Technician/Veterinary Assistant II
	And program may elect to add:
51.0808.75	Veterinary/Animal Health Technician/Veterinary Assistant - Internship
	--or--
51.0808.80	Veterinary/Animal Health Technician/Veterinary Assistant - Cooperative Education

Sample Perkins Grant Objectives for Programs of Study

Goal: In collaboration, secondary and postsecondary eligible recipients must begin development of at least one additional Program of Study.

Eligible recipients must establish a minimum of two objectives for developing a Program of Study. Below are sample objectives:

Objective 1: By (date) the eligible recipient will identify at least one additional approved CTE program to develop into a program of study.
Measurable Outcome: By (date) the eligible recipient will:

- Establish a secondary/postsecondary partnership
- In collaboration with the partnership, identify potential program for the development of a Program of study
- In collaboration with the partnership, identify end outcomes for the Program of Study (i.e. certificates, associate degrees, etc.)
- In collaboration with the partnership, align secondary CTE curriculum with postsecondary course curriculum
- In collaboration with the partnership, identify the required and recommended academic coursework and elective coursework that supports Program of Study outcomes at both the secondary and postsecondary level
- In collaboration with the partnership, complete and sign a Program of Study Template outlining the secondary academic, recommended elective and CTE course sequence, as well as the postsecondary academic, recommended elective and CTE course sequence.

Objective 2: By (date) the eligible recipient will work within the partnership to establish postsecondary credit for students completing equivalent coursework in the identified Program of Study.
Measurable Outcome: Documentation for

- Established credit agreements between secondary and postsecondary institutions
- Established agreements between secondary and postsecondary institutions for fiscal management of dual credit

Objective 3: By (date) secondary and postsecondary program will establish a joint advisory committee for the support and guidance of the Program of Study.
Measurable Outcome:

- Advisory Committee established with membership representing the industry and both secondary and postsecondary educational levels

Objective 4: By (date) __# of professional development opportunities will be provided for secondary and postsecondary staff/faculty to increase understanding of implementing Programs of Study.

Measurable Outcome:

- Secondary and postsecondary staff will participate in professional development opportunities
- Academic teachers will participate in professional development opportunities

Objective 5: By (date) __# of professional development opportunities will be provided for guidance and counseling staff to increase understanding of Programs of Study and how to utilize the Program of Study Template in helping students prepare their ECAPs.

Measurable Objective:

- Guidance and Counseling staff will participate in professional development opportunities
- Guidance and Counseling staff will develop a strategy for utilizing the established Programs of Study when providing guidance on student ECAPSs

Objective 6: By (date), a strategy for marketing the Program of Study to secondary students and parents will be developed.

Measurable Outcome:

- Recruitment plan
- Outreach strategies
- Marketing materials

Objective 7: Beginning with an established Program of Study, by (date) transition to a Rigorous Program of Study by fully implement the ten components of the Program of Study Framework.

Measurable Outcomes:

- Established policies, procedures or strategies for implementing each component of the Program of Study Design Framework within the secondary district and/or postsecondary institution.
- Established policies, procedures or strategies for implementing each sub-component of the Program of Study Design Framework within the secondary district and/or postsecondary institution.

Programs of Study Design Framework
Ten Components and Subcomponents
Sample Expenditures

Components	Subcomponents	Sample Activities
1. LEGISLATION AND POLICIES Federal, state, and local legislation or administrative policies promote POS development and implementation.	**Effective legislation and policies should:** • Provide for state and/or local funding and other resources, such as professional development and dedicated staff time, for POS development. • Establish formal procedures for the design, implementation, and continuous improvement of POS. • Ensure opportunities for any secondary student to participate in a POS. • Require secondary students to develop an individual graduation or career plan. • Provide resources for long term sustainability of POS.	Compliance with ARS is necessary for any activity associated with this Component. • Informational materials • Printing • Travel • Meeting expenses • Conferences • Consortia Director expenses
2. PARTNERSHIPS Ongoing relationships among education, business, and other community stakeholders are central to POS design, implementation, and maintenance.	**Collaborative partnerships should**: • Create written memoranda of understanding that elaborate the roles and responsibilities of partnership members. • Conduct ongoing analyses of economic and workforce trends to identify statewide (or regional) POS to be created, expanded, or discontinued. • Link into existing initiatives that promote workforce and economic development, such	• Informational materials • Printing • Travel • Meeting expenses • Conferences • Teacher/administrator/individual stipends • Consortia Director expenses

	as sector strategies and other activities supported by the Workforce Investment Act. • Identify, validate, and keep current the technical and workforce readiness skills that should be taught within a POS.	
3. PROFESSIONAL DEVELOPMENT Sustained, intensive, and focused opportunities for administrators, teachers, and faculty foster POS design, implementation, and maintenance.	**Effective professional development should:** • Support the alignment of curriculum from grade to grade (9-12) and from secondary to postsecondary education (vertical curriculum alignment). • Support the development of integrated academic and career and technical curriculum and instruction (horizontal curriculum alignment). • Ensure that teachers and faculty have the content knowledge to align and integrate curriculum and instruction. • Foster innovative teaching and learning strategies (see #9 below).	• Teacher/administrator/individual stipends • Professional development for teaching and integration activities • Printing • Travel • Meeting expenses • Conferences • Informational materials • Consortia Director expenses
4. ACCOUNTABILITY AND EVALUATION SYSTEMS Systems and strategies to gather quantitative and qualitative data on both POS components and student outcomes are crucial for ongoing efforts to development and implement POS.	**Well-designed accountability and evaluation systems should:** • Include the "10 Essential Elements of a State Longitudinal Data System" identified by the Data Quality Campaign.[1] • Provide for administrative record matching of student education and employment data (i.e., Unemployment Insurance (UI) wage records). • Yield valid and reliable data on key student	• Fees for data collection • Development of systems • Analyzing data • Teacher/administrator/individual stipends • Professional development activities regarding use of data • Printing

	outcomes (indicators) referenced in Perkins and other relevant federal and state legislation. • Provide timely data to evaluate and improve the effectiveness of POS.	• Travel • Meeting expenses • Conferences • Consortia Director expenses
5. COLLEGE AND CAREER READINESS STANDARDS Content standards that define what students are expected to know and be able to do to enter and advance in college and/or their careers comprise the foundation of a POS.	**Rigorous college and career readiness standards should:** • Be developed and continually validated in collaboration with secondary, postsecondary, and industry partners. • Incorporate essential knowledge and skills (i.e., academic skills, communication, and problem-solving), which students must master regardless of their chosen career area or POS. • Provide the same rigorous knowledge and skills in English and mathematics that employers and colleges expect of high school graduates. • Incorporate industry-recognized technical standards that are valued in the workplace. • To the extent practicable, be internationally benchmarked so that all students are prepared to succeed in a global economy.	• Teacher/administrator/individual stipends • Professional development for teaching/counseling college and career readiness • College entrance test preparation materials • Printing • Travel • Meeting expenses • Conferences • Informational materials • Consortia Director expenses
6. COURSE SEQUENCES Non-duplicative sequences of secondary and postsecondary courses within a POS ensure that students transition to postsecondary education without duplicating classes or requiring remedial coursework.	**Well-developed course sequences should:** • Map out the recommended academic and career and technical courses in each POS. • Begin with introductory courses at the secondary level that teach broad foundational knowledge and skills that are	• Teacher/administrator/individual stipends • Printing • Travel • Meeting expenses • Informational materials

	common across all POS. • Progress to more occupationally-specific courses at the postsecondary level that provide knowledge and skills required for entry into and advancement in a chosen POS. • Offer opportunities for students to earn postsecondary credit for coursework taken during high school.	• Professional development activities • Curricular Flow development activities • Consortia Director expenses
7. CREDIT TRANSFER AGREEMENTS Credit transfer agreements provide opportunities for secondary students to be awarded transcripted postsecondary credit, supported with formal agreements among secondary and postsecondary education systems.	**Well-development agreements:** • Provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two or four-year institution in the state that offers the POS, and transfer credit earned at a two-year college to any other two- or four-year institution in the state that offers the POS. • College credit should be automatically transcribed at the college for high school students so that they can transfer seamlessly into the postsecondary portion of a POS without the need for additional paperwork or petitioning for credit. • Describe the expectations and requirements for, at a minimum, teacher and faculty qualifications, course prerequisites, postsecondary entry requirements, location of courses, tuition reimbursement, and credit transfer process.	• Teacher/administrator/individual stipends • Printing • Travel • Meeting expenses • Conferences • Informational materials • Professional development activities • Articulation activities costs • Consortia Director expenses

8. GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT Guidance counseling and academic advisement help students to make informed decisions about which POS to pursue.	**Comprehensive guidance counseling and academic advisement systems:** • Are based on state and/or local guidance and counseling standards, such as the National Career Development Guidelines.[i] • Ensure that guidance, counseling, and advisement professionals have access to up-to-date information about POS offerings to aid students in their decision making. • Offer information and tools to help students learn about postsecondary education and career options, including prerequisites for particular POS. • Offer resources for students to identify their career interests and aptitudes and to select appropriate POS. • Provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications. • Offer Web-based resources and tools for obtaining student financial assistance.	• Counselor/Teacher/administrator/individual stipends • Counselor time • Printing • Travel • Meeting expenses • Conferences • Informational materials • Professional development activities • Resources linking ECAPS, ACZIS and other approved career planning tools • Consortia Director expenses
9. TEACHING AND LEARNING STRATEGIES Innovative and creative instructional approaches enable teachers to integrate academic and technical instruction and students to apply academic and technical learning in their POS coursework.	**Effective teaching and learning strategies should:** • Be jointly led by interdisciplinary teaching teams of academic and career and technical teachers or faculty. • Employ contextualized work-based, project-based, and problem-based learning approaches. • Incorporate team-building, critical thinking, problem-solving, communication skills, such	• Teacher/administrator/individual stipends Counselor time • Printing • Travel • Meeting expenses • Conferences • Informational materials

	as through the use of career and technical student organization (CTSO) activities.	• Professional development activities in the areas of communities of practice • Activities that lead to reducing remediation • Consortia Director expenses
10. TECHNICAL SKILLS ASSESSMENTS National, state, and/or local assessments provide ongoing information on the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in their chosen POS.	**Well-developed technical skills assessments:** • Measure student attainment of technical skill proficiencies at multiple points during a POS. • Employ industry-approved technical skill assessments based on industry standards, where available and appropriate. • Employ State-developed and/or approved assessments, particularly where industry-approved assessments do not exist. • Result in the awarding of secondary credit, postsecondary credit, or a special designation on a student's high school diploma. • Incorporate performance-based assessment items, to the greatest extent possible, where students must demonstrate the application of their knowledge and skills.	• Teacher/administrator/individual stipends • Technical Skill Standards and assessment activities • Analyzing and utilizing data from technical skill assessments • Development of tools to assist students to succeed on technical assessments • Printing • Travel • Meeting expenses • Conferences • Informational materials • Consortia Director expenses

Rigorous Programs of Study (RPOS) Design Framework Worksheet

Use this worksheet to assist in working toward the implementation of all components of a RPOS

Framework Element	Guiding Questions	Notes
Legislation & Policies: State and Local legislation rules and regulations, or administrative polices that promote POS development and implementation.	a. What legislation or policies are in place to support Programs of Study? b. State Legislation? c. State Board Policies? d. Local School Board Policies? e. School Policies?	
Partnerships: Ongoing relationships among education, business, and other community stakeholders that support POS design, implementation, and maintenance.	a. Who will be at the table for RPOS development and implementation? (e.g., secondary & postsecondary education representative, employers, workforce/ economic development agencies, others?)	
Professional Development: Sustained, intensive, and focused professional development opportunities for administratotrs, faculty, and guidance staff that foster POS design, and maintenance.	a. What types of RPOS professional development will be offered? b. Is this required or optional? c. What will be at secondary? d What will be at the postsecondary ? e What will be offered jointly?	
Accountability & Evaluation Systems: Systems Strategies that gather quantitative and qualitative data on all 10 framework elements as well as on student outcomes to inform on-going efforts to develop and implement POS and to determine their effectiveness.	a. What process will be used to monitor and evaluate RPOS quality and program improvement? b. What systems will be used? The Clearinghouse AZ St.Sys for Info on Student Transfer (ASSIST) Placement systems	
College & Career Readiness Standards: POS content standards that define what students are exprected to know and be able to do to enter and advance in college, their careers, or both, and that include aligned academic and technical content.	a. How will the implementation of the RPOS effect instructional change? b. How explicit will the academic component be made to students in a RPOS? c. How will postsecondary placement requirements be integrated into the secondary RPOS component as to eliminate the need for postsecondary remediation?	
Course Sequences: Course sequences within a POS that help students transition to postsecondary education withouth the need to duplicate classes or enroll in remedial courses.	a. How will the POS course sequence be designed? b. How will potential duplication between education levels been reduced or eliminated?	
Credit Transfer Agreements: Formal credit transfer agreements among secondary schools and postsecondary institutions.	a. What is the process for establishing credit transfer agreements? b. Will college credit be awarded at the time credit is earned? c. If not, why not? d How will the credit be awarded?	

Framework Element	Guiding Questions	Notes
Guidance Counseling & Career Advisements: Systems that provide career counseling and academic advisory services to help students make informed decisions about which POS to pursue.	a. How will Programs of Study be integrated within academic and CTE advisory? b. How will guidance staff obtains up-to-date career and RPOS information? c. How will guidance staff use this information with students/parents? d. Incorporate into ECAP? e How will guidance counselors communicate to students and parents about RPOS opportunities?	
Teaching & Learning Strategies: Innovate and creative instructional approaches that enable teachers to integrate academic and technical learning in their POS coursework.	a. What will be considered to be innovative RPOS teaching and learning strategies. How will they be determined to be effective? b. What professional development activies will be conducted that focus on innovative and creative instructional approaches?	
Technical Skill Assessments: Existing valid and reliable technical skill to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in their chosen POS.	a. What strategies will be used to ensure students take the appropriate technical skill assessment? b. How will assessment results be used to improve instruction?	

Program of Study
Implementation Definitions

Approved Career and Technical Education Program: *Career and Technical Education Program that includes the below essential elements:*

- *Delivers a coherent sequence of instruction. The recommended program sequence of courses in each CTE program can be found at https://www.azed.gov/cte/HandbookGuidelines.asp*
- *Teaches all the State-designated program "standards"*
- *Specified on the current CTE Program List.*
- *Taught by an appropriately certified teacher per CTE certification requirements*
- *Evaluates program performance annually and meets or exceeds established State Performance Measures.*
- *Offers student work-based participation that involves actual work experience and connects classroom learning to work activities. Requires student participation and Career Exploration for grades 7-9.*
- *Requires a Career and Technical Education Student Organization (CTSO) to be organized for the CTE secondary programmatic area.*

Articulation/Articulated Credit: *policies/formal agreements that facilitate the award and transfer of credit between institutions (secondary to postsecondary) to provide students with a non-duplicative sequence of progressive achievement leading to a technical skill proficiency, a credential, a certificate or a degree.*

Articulation Agreement**:** *a written commitment between a secondary institution and a postsecondary educational institution to a program that is designed to provide students with a sequence of achievement and linked through credit transfer agreements between the secondary and postsecondary institution holding the agreement.*

Articulation Process/ TechPrep: *is the process (such as Tech Prep) through which curriculum content is aligned between secondary and postsecondary pathways both at the program level and the course level. It is the process through which IGA's and articulation agreements are created and maintained.*

Career Clusters: *a national method of organizing occupations/careers in related groups for the purpose of developing career pathways and aiding the design of curriculum and instruction. Occupations/careers are grouped into the Career Clusters based on the fact they require a set of common knowledge and skills for career success. Nationally there are 16 recognized Career Clusters.*

Career Pathway: *is the career specific program option a student chooses within a CTE program or Cluster (also referred to as "options")*

Career and Technical Education Program: *a secondary coherent sequence of instruction designed to deliver all State-designated program standards for any program on the CTE Program List. A program is directly related to preparing individuals for employment in an occupation or a pathway to postsecondary education. Approved and conditionally approved programs qualify to apply for State and Federal funding.*

Career and Technical Education Basic Grant: *Arizona's name for the local application to receive formula funds from the Carl D. Perkins Career and Technical Education Act of 2006. The local allocation is based on a census data formula. Eligible recipients are annually notified of their allocation and invited to apply by submitting an application. Further information on the application and process is available at* http://www.azed.gov/career-technical-education/carl-d-perkins-grant-information/

Carnegie Unit: *one unit of transcripted credit awarded in grades 7-12 for a minimum of 123 clock hours of instruction during the regular school year or 123 clock hours of instruction during summer school.*

Concentrator: *a secondary student who has transcripted two (2) or more Carnegie Units/credits in a State-designated sequence in an approved Career and Technical Education Career Preparation program. The Carnegie Units/credits must be in a single Career Preparation program as outlined in the CTE Handbook.*

Concurrent Enrollment: *students who are enrolled in a postsecondary course located on the postsecondary campus, receiving postsecondary transcripted credit and also receiving high school credit (sometimes referred to as "reverse credit")*

Credit by Exam: *the program through which secondary and postsecondary students generate postsecondary credit based on the receipt of a specified minimum score on nationally standardized general or subject-area examinations.*

Dual Enrollment: *credit earned by secondary students who are enrolled in a course taught on the high school campus and receiving high school credit and also receiving transcripted credit from a postsecondary institution.*

ECAP: *Education Career Action Plan that reflects a student's current plan of coursework, career aspirations, and extended learning opportunities in order to develop their individual academic and career goals. Effective for the graduation class of 2013, AZ State Board Rule (Administrative Code R7-2=302.05) requires that all schools complete for every student n grades 9-12 an ECAP prior to graduation.*

Program of Study: *is a comprehensive, structured approach for delivering academic and career and technical education to prepare students for post-secondary education and career success.*

Program of Study Template: *a guidance tool that aligns appropriate academic and CTE coursework, as well as, recommended electives at both the secondary and postsecondary levels that support successful completion of the Program of study.*

Program of Study Design Framework: *a listing of ten components and subcomponents identified by the National Office of Adult and Vocational Education (OVAE) as being the essential components that are needed to develop a strong Program of Study. The ten components are:*

- Legislation and Policies
- Partnerships
- Professional development
- Accountability and Evaluation Systems
- College and Career Readiness Standards
- Course Sequences
- Credit Transfer Agreements
- Guidance Counseling and Academic Advisement
- Teaching and Learning Strategies
- Technical Skills Assessments

Rigorous Program of Study: ***i****s a comprehensive, structured approach for delivering academic and career and technical education to prepare students for post-secondary education and career success, that* ***fully implements the ten components of the Program of Study Design Framework***

Transcripted Credit: *The awarding of all accelerated mechanisms of credit to a student's postsecondary transcript without manual process*

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