

**North Orange County Regional Occupational Program
Course Sequencing Plan
September, 2008**

Introduction

Governor Schwarzenegger signed AB 2448 (Hancock) on September 28, 2006, making its provisions effective January 1, 2007. AB 2448 was a comprehensive piece of legislation that changed many aspects of ROP administration and operations. Its main focus was to better serve high school students. It requires ROPs to align/sequence their course offerings with high school and community college courses leading to apprenticeships, certificates or degrees, industry certifications, or entry into high skill/high demand jobs. As prescribed by E.C. 52302 (a), the governing board of each ROP shall ensure that by July 1, 2010, at least 90 percent of all state-funded courses offered by the ROP in occupation areas in which both the ROP and the community college offer instruction, are part of occupational sequences that target comprehensive skills.

To accomplish this course sequencing, ROPs are required to develop a *plan* for establishing sequences of state-funded courses in which both the ROP and community college offer instruction and submit the plan to California Department of Education (CDE) no later than July 1, 2008 [E.C. 52302(b)(1)]. The California Department of Education has extended this deadline until June 30, 2009. The plan shall be presented at a public hearing by the governing board of each school district served by the ROP. [E.C. 52302(b)(2)]. Community college boards, with identified articulation programs, shall also review the ROP's plan in a public session [E.C. 52302(b)(3)]. Every four years after the plan has been submitted, the ROP shall submit an update to the plan to the local community colleges and CDE [E.C. 52302(b)(7)].

The following plan outlines the steps the North Orange County Regional Occupational Program (NOCROP) will implement to develop a coherent, focused, and effective course sequencing plan that prepares our students for their next level of education or employment.

Definition of Course Sequencing

An occupational course sequence is defined as two or more career technical education (CTE) courses (each offering at least 150 hours of instruction annually) in the same pathway offered by both the ROP and the community college in the local service area. At a minimum, the ROP 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 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 courses, the sequence must also include two or more CTE courses as stated above.

Required Elements of the Plan

AB 2448 added several education code sections that:

- ◆ Prescribe the content of the course sequencing plan
- ◆ Ensure the plan has adequate input as part of the development process
- ◆ Delineate essential outcomes related to adequately preparing students to enter high skill/high demand jobs or to continue their education in apprenticeship or college programs

The required elements of a course sequencing plan are:

1. The plan describes the steps that will be taken to identify state-funded courses offered by the ROP in pathways in which the ROP and community college both offer instruction. E.C. 52302(b)(1).
2. The plan describes how the ROP will ensure the course sequence results in an occupational skill certificate developed in cooperation with the appropriate employer advisory board. E.C. 52302(a)(1).
3. The plan describes how the ROP will ensure the course sequence provides prerequisite courses that are needed to enter apprenticeship or postsecondary vocational certificate or degree programs. Where possible, sequenced courses shall be linked to certificate and degree programs in the region. E.C. 52302(a)(2).
4. The plan describes how the ROP will ensure the course sequence focuses 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)(3).
5. The plan describes how the ROP will ensure the course sequence offers alignment to university admission requirements, when appropriate. E.C. 52302(a)(4).
6. The plan provides a timeline for accomplishing the sequencing of courses.
7. The plan describes how the ROP maximizes local, state, and federal resources to help high school students enter employment, apprenticeships, or post-secondary education. E.C. 52302(b)(5).
8. The plan describes strategies, which will be used to fill in the gaps in course sequences identified through the planning process. E.C. 52302(b)(2).
9. The plan lists each school district governing board and the date in which the plan was presented in public hearing. E.C. 52302(b)(2).
10. The plan provides the date in which the plan was approved by the NOCROP governing board. E.C. 52302(b)(2).
11. The plan provides the name of the community college(s) and the date in which the plan was reviewed in public session by the colleges governing board. E.C. 52302(b)(3).

NOCROP's Plan to Sequence Courses

NOCROP fully supports the development of course sequences in specified career pathways that will provide a comprehensive course of study preparing students for both postsecondary education and careers. Course sequences will include CTE courses provided by our districts and community colleges, as well as NOCROP courses. Course sequences will begin at the middle school level, where applicable, and continue through the community college level, when feasible. Following the proposed planning steps outlined below, NOCROP will have sequenced ninety percent of those courses in which both the ROP and the local community college offer instruction, by July 1, 2010.

- Step 1. Identify the NOCROP course name, appropriate industry sector and career pathway, for each NOCROP course that is offered by NOCROP and Cypress and/or Fullerton Community College. See *North Orange County ROP Sectors and Pathways - By Course*, Appendix B.
- Step 2. Inventory and list by industry sector and pathway all CTE courses offered at each of our high schools in the identified occupational areas. See *Career Pathways/Course Inventory* (example), Appendix C.
- Step 3. Review the completed *Career Pathways/Course Inventory* form for each high school to determine the level of sequencing that exists at present. This in effect establishes our baseline from which to evaluate and begin our sequencing process. Each district and community college will then validate the course sequence inventory. To be completed by November 30, 2009.
- Step 4. Assess each pathway to determine if 1) a course sequence (as defined earlier) exists for each NOCROP course at each high school and 2) determine whether the courses identified collectively form a sequence reflecting rigor and high expectations for student achievement and meets the CTE needs of high school pupils in the region. This analysis will provide the ROP, district, and community college with the information needed to collaboratively fully sequence courses in pathways beginning with introductory coursework and leading to postsecondary courses. To be completed by January 15, 2010.
- Step 5. Evaluate course sequences identified through the above steps to determine the following:
 - a) The course sequence identified will result in an occupational skill certificate developed in cooperation with the appropriate employer advisory board. *Note: All students who complete an NOCROP course as defined by NOCROP policy earn an employer advisory board-validated Record of Competency, and students who complete all Records of Competency in a course earn a Certificate of Achievement.*
 - b) The course sequence identifies prerequisite courses that are needed to enter apprenticeship or postsecondary vocational certificate or degree programs. Postsecondary and apprenticeship programs, where applicable, will be asked to review and verify that sequenced courses provide the necessary prerequisites for entry into their respective programs.
 - c) The course sequence focuses on occupations requiring comprehensive skills leading to high entry-level wages or to the

possibility of significant wage increases after a few years on the job. Note: As part of the NOCROP course development and review process, labor market information (including employment projections and wage information) is evaluated annually to determine whether a course in itself or as part of a sequence leads to high wage employment. Labor market information is also reviewed and discussed at the annual course advisory meetings.

- d) The course sequence offers approval aligned with university admission requirements, when appropriate.

Step 6. Review both inventory documents to identify any gaps in sequencing. Identified gaps will be the basis for partner discussion in development or elimination of courses, as appropriate and/or feasible. Collaborative partners may include district, community college, and apprenticeship programs.

Step 7. Develop an action plan in collaboration with partner agencies to guide intervention activities related to increasing the number of courses satisfying the criteria outlined in step 5. To be completed by February 26, 2010.

Conclusion

The process as described in this plan will allow for a careful analysis of the present level of CTE course sequences offered in our districts, NOCROP, and community colleges, as well as to determine the most effective course of study to adequately prepare students for both the workplace and post-secondary educational options.

Following the prescribed steps as outlined will ensure that NOCROP courses

- ◆ Are sequenced and are part of a comprehensive course of study
- ◆ Offer occupational skill certification
- ◆ Satisfy prerequisite course requirements for entry into advanced coursework
- ◆ Lead to high entry-level wages or wage increases
- ◆ Meet university admission requirements, when applicable

This plan has been developed with the input of our secondary and community college partners and has been reviewed by the NOCROP's Career Technical Advisory Committee, including representative stakeholders from business and industry.

The plan was presented at school district and community college public hearings as noted (Appendix A).

The plan was reviewed and formally approved by the North Orange County ROP Governing Board on (Date).

Patricia Frank, Superintendent

Date

Appendix A

School District Governing Board Review

DISTRICT	DATE OF PUBLIC HEARING
Anaheim Union High School District	
Brea Olinda Unified School District	
Fullerton Joint Union High School District	
Los Alamitos Unified School District	
Placentia-Yorba Linda Unified School District	

Community College Governing Board Review

COMMUNITY COLLEGE	DATE OF PUBLIC HEARING
Cypress Community College	
Fullerton Community College	

NOCROP Governing Board Review

The plan was reviewed and approved on _____ by the North Orange County ROP Governing Board.

Patricia Frank, Superintendent

Date

Appendix C

North Orange County ROP
 XXX District-XXX High School

- SAMPLE -

CAREER PATHWAYS/COURSE INVENTORY

Middle School High School Community College

Pathway	Transportation Industry Sector	Health Science and Medical Technology
Level	Vehicle Maintenance, Service & Repair Pathway	Diagnostic Services & Therapeutic Services
Grade 9	Introduction to Automotive Technology	Medical Core
Grade 10	Automotive Technology	Medical Careers I
Grade 11	Automotive Technology	Medical Careers II
Grade 12	Automotive Technology	Fundamentals of Nursing
Grade 13	<u>Cypress College</u> • ACR 010AC Automotive Collision Repair • ACR 020AC Auto Detailing & Car Care • ACR 011 C Auto Painting and Refinishing <u>Fullerton College</u> • AUTO 131 F Automotive Fundamentals • AUTO 072 F Automotive Engine Performance • AUTO 051 F Internship in Automotive	<u>Cypress College</u> • NURS 190 C Introduction to Nursing Concepts • NURS 191 Pharmacology in Nursing I • NURS 192 C Fundamentals of Nursing
Grade 14	<u>Cypress College</u> • ACR 010BC Advanced Auto Collision Repair • ACR 013 C Computerized Automotive Damage Appraisal • ACR 040 C Automotive Body/Structural Alignment and Repair <u>Fullerton College</u> • AUTO 060 F Automotive Powertrains • AUTO 072 F Automotive Engine Performance • AUTO 083 F Brake and Suspension Systems Repair	<u>Cypress College</u> • NURS 196 C Medical-Surgical Nursing • NURS 197 Maternal/Newborn Nursing • NURS 293 C Mental Health Nursing

Appendix B North Orange County ROP Sectors and Pathways - By Course

Industry Sector	Career Pathway	NOCROP Course Name	Approved course hours (must be at least 150 to be a sequenced course)	NOCROP Record of Competency Available	Industry Certification Available	Labor Market Growth Potential (High/Medium/Low)	Annual California Mean Wage	Fullerton College Course	Fullerton College Certificate	Cypress College Course	Cypress College Certificate	Current Formal Articulation Agreements With	UC 2-9 Qualified
Agriculture and Natural Resources	Ornamental Horticulture	Floral Design	450	YES	NO	Medium	\$38,400	YES	A.S., VCP	NO	-		NO
Arts, Media and Entertainment	Media and Design Arts	3-D Computer Graphics and Animation	635	YES	NO	High	\$44,800	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Computer Graphics and Design	700	YES	NO	High	\$35,700	YES	VCP	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Introduction to Digital Photography	255	YES	YES	Medium	\$31,200	YES	A.A.	YES	A.A., A.S., VCP	Cerritos College, Fullerton College, Golden West College, Westwood College	NO
Arts, Media and Entertainment	Media and Design Arts	Multimedia Design and Production	254	YES	YES	Medium	\$33,300	YES	A.A.	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Traditional Photography with an Introduction to the Digital Domain	1608	YES	YES	Medium	\$31,200	NO	-	YES	A.A., A.S., VCP		YES
Arts, Media and Entertainment	Media and Design Arts	Video Production	174	YES	YES	High	\$28,500	YES	A.A.	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Visual Communications	435	YES	NO	Medium		YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		YES
Arts, Media and Entertainment	Performing Arts	Professional Dance	180	NO	NO	Medium	Data Not Available	YES	A.A., VCP	YES	A.A., A.S., VCP		NO
Building Trades and Construction	Cabinetmaking and Wood Products	Wood Manufacturing Occupations	565	YES	NO	Medium	\$25,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Mechanical Construction	Heating, Ventilation, Air Conditioning (HVAC)	720	YES	YES	Medium	\$29,100	NO	-	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Brick Tender Apprenticeship	230	YES	NO	High	\$28,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Carpentry/Construction Occupations	730	YES	NO	Medium	\$28,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Masonry Occupations	1320	YES	NO	High	\$28,000	YES	A.S., VCP	NO	-		NO
Education, Child Development, and Family Services	Child Development	Basic Occupational Training	2000	YES	NO	Medium		NO	-	NO	-		NO
Education, Child Development, and Family Services	Child Development	Careers with Children/Preschool Assistant	480	YES	NO	Medium	\$20,800	YES	A.A.	NO	-	Cypress College	NO
Education, Child Development, and Family Services	Child Development	Principles of Teaching and Learning [formerly Careers in Teaching]	903	YES	NO	Medium	\$48,000	YES	A.A., VCP	NO	-	Cerritos College, Orange Coast College	YES
Education, Child Development, and Family Services	Education	Child Development	365	YES	NO	Medium	\$20,800	YES	VCP	NO	-	Cypress College	YES
Education, Child Development, and Family Services	Education	Special Education Instructional Aide	900	YES	YES	Medium	\$32,754	NO	-	NO	-		NO
Engineering and Design	Engineering Design	Introduction to Engineering Design	180	YES	NO	Medium	\$34,200	YES	A.S.	YES	A.A., A.S., VCP		YES
Engineering and Design	Engineering Design	Principles of Engineering	180	YES	NO	High	\$84,800	YES	A.S.	YES	A.A., A.S., VCP		YES
Labor Market Potential (High/Medium/Low)		VCP=Vocational Certificate Program											
		Wage information collected from the CA EDD web site											
		High => > 15% growth											
		Medium = Between 5%-15%											

A "Yes" in either the Fullerton or Cypress College Course column indicates a course that is or will be sequenced.

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Engineering and Design	Environmental and Natural Science Engineering	Introduction to Geographic Information Systems (GIS)	180	NO	NO	High	\$55,000	YES	A.A.	YES	A.A., A.S., VCP		NO	
		Computer-Assisted Design and Manufacturing Technology	1320	YES	NO	Medium	\$41,800	YES	A.S. VCP	YES	YES	A.A., A.S., VCP		NO
		Design & Fab. For Engr. Careers	180	YES	NO	Medium	\$30,800	YES	A.A., A.S., VCP	YES	YES	A.A., A.S., VCP		NO
Finance and Business	Accounting Services	Accounting Occupations/Computerized Accounting	180	YES	NO	Medium	\$40,000	YES	A.A., A.S., VCP	YES	YES	A.A., A.S., VCP		NO
		Financial Services/Marketing (Banking)	180	YES	NO	High	\$22,900	YES	A.S., VCP	YES	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Diagnostic Services & Therapeutic Services	Medical Careers I	180	YES	NO	High	\$21,700	YES	A.A.	YES	YES	A.A., A.S., VCP	Cypress College, Orange Coast College	NO
		Medical Careers II (formerly Allied Health Occupations - Advanced: Body Systems and Disorders)	180	YES	NO	High	\$21,700	YES	A.A.	YES	YES	A.A., A.S., VCP		YES
Health Science and Medical Technology	Health Informatics	Computerized Medical Insurance Billing (Medisoft)	730	YES	YES	High	\$27,800	YES	A.A. VCP	NO	NO			NO
		Dental Office Administration/Dentrix	150	YES	NO	High	\$27,800	YES	A.A., VCP	YES	NO			NO
Health Science and Medical Technology	Health Informatics	Medical Insurance Coding	144	YES	YES	High	\$27,800	YES	A.A.	YES	YES	A.A., A.S., VCP		NO
		Pharmacy Technician	1748	YES	YES	HIGH	\$27,000	NO			NO			NO
Health Science and Medical Technology	Support Services	Certified Nursing Assistant, Acute Care	180	YES	NO	High	\$22,000	YES	A.A., VCP	YES	YES	A.A., A.S., VCP		NO
		Dental Assistant - Occupations	425	YES	NO	High	\$20,900	YES	A.A., VCP	YES	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Exploring Medical Careers	180	YES	NO	High	\$21,700	YES	A.A.	YES	YES	A.A., A.S., VCP		NO
		Health Fitness and Sports Medicine	540	YES	YES	Medium	\$52,000	NO			YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Medical Assistant - Administrative (Front Office)/Health Unit Coordinator	295	YES	YES	High	\$27,900	YES	A.A., VCP	YES	YES	A.A., A.S., VCP		NO
		Medical Assistant - Clinical (Back Office)	641	YES	YES	High	\$28,600	YES	A.A.	YES	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Nurse Assistant, Long-Term Care	1600	YES	YES	High	\$46,738	YES	A.A.	YES	YES	A.A., A.S., VCP		NO
		Vocational Nursing	705	YES	NO	High	\$42,460	YES	VCP	YES	YES	A.A., A.S., VCP	Cypress College	NO
Health Science and Medical Technology	Therapeutic Services	Medical Core	90	YES	NO	High	\$28,600	YES	A.A.	YES	YES	A.A., A.S., VCP		NO
		Introduction to Culinary Arts	180	YES	YES	Medium	\$27,400	NO			YES	A.A., A.S., VCP	Cypress College	NO
Hospitality, Tourism, and Recreation	Food Service and Hospitality	Advanced Culinary Arts	785	NO	YES	Medium	\$21,100	YES	A.A., A.S., VCP	YES	YES	A.A., A.S., VCP		NO
		Culinary Arts Foundation	1160	YES	YES	High	\$33,500	YES	A.A., A.S., VCP	YES	YES	A.A., A.S., VCP		NO
Labor Market Potential (High/Medium/Low)		VCP=Vocational Certificate Program												
		Wage information collected from the CA EDD web site												

A "Yes" in either the Fullerton or Cypress College Course column indicates a course that is or will be sequenced.

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Hospitality, Tourism, and Recreation	Food Service and Hospitality	Prof Pastry Chef/Baker (formerly Advanced Baking and Pastry)	670	YES	YES	High	\$33,500	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO		
		Professional Chef (formerly Advanced Culinary Arts)	785	YES	YES	High	\$21,100	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO		
		Retail Restaurant/Food Service Marketing Occupations	630	YES	NO	Medium	\$29,100	NO	-	-	YES	A.A., A.S., VCP		NO	
	Hospitality, Tourism, and Recreation	Information Support and Services	Entertainment Park/Tourism Careers	903	YES	NO	High	\$18,000	NO	-	YES	VCP		NO	
			Business Technology: Administrative Systems/Computer Operations	360	YES	NO	Medium	\$40,000	YES	VCP	YES	A.A., A.S., VCP	Cerritos College, Cypress College	NO	
	Manufacturing and Product Development	Graphic Arts Technology Machine and Forming Technology	Graphics/Printing Occupations	365	YES	NO	High	\$31,600	YES	A.A., A.S., VCP	NO	-		NO	
			CNC Machining Occupations	800	YES	NO	High	\$25,400	YES	VCP	NO	-		NO	
			CNC Machining Occupations	462	YES	YES	High		NO	-	-	NO	-		NO
	Manufacturing and Product Development	Welding Technology	Welding/Metal Fabrication Occupations	1170	YES	YES	High	\$42,113	YES	A.S., VCP	NO	-		Cerritos College, Fullerton College, Golden West College, Orange Coast College, Rancho Santiago College, Westwood College	NO
			Entrepreneurship/Small Business	180	YES	NO	Medium	\$52,000	YES	A.S., VCP	YES	A.A., A.S., VCP		NO	
Career Training for Transition			450	YES	YES	Medium		NO	-	-	NO	-		NO	
Cosmetology			435	YES	YES	Medium	\$18,000	YES	A.S., VCP	NO	-		NO		
Retail Careers			700	YES	NO	Medium	\$31,200	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO		
Aquatic/Marine Diving Occupations			720	YES	YES	High	\$77,183	YES	VCP	NO	-		NO		
Public Services			Protective Services	Emergency Medical Technician I (EMT)	580	YES	NO	High	\$21,300	YES	A.S., VCP	NO	-		NO
				Emergency Responder	81	YES	NO	High	\$21,300	YES	A.S., VCP	NO	-		NO
Public Services			Protective Services	Introduction to Fire Technology	185	YES	NO	Medium	\$60,000	YES	A.S., VCP	NO	-		NO
				Legal and Law Enforcement Occupations	789	YES	YES	Medium	\$48,000	NO	-	-	YES	A.A., A.S., VCP	NO
	Introduction to Fire Technology	185		YES	NO	Medium	\$60,000	NO	-	-	NO	-		NO	
	Introduction to Forensic/Crime Scene Investigation	180		YES	NO	High	\$51,600	YES	A.A., A.S., VCP	YES	VCP		NO		
Transportation	Vehicle Maintenance, Service, and Repair	Auto Body Repair Occupations	850	YES	NO	High	\$37,100	YES	VCP	YES	A.A., A.S., VCP		NO		
		Introduction to Automotive Technology	180	YES	YES	High	\$37,100	YES	A.A.	A.A.	YES	A.A., A.S., VCP	The Art Institute of California	NO	
Transportation	Vehicle Maintenance, Service, and Repair	Automotive Technology	480	YES	NO	High	\$37,100	YES	A.A.	YES	A.A., A.S., VCP		NO		
Labor Market Potential (High/Medium/Low)	VCP=Vocational Certificate Program Wage information collected from the CA EDD web site														

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Agriculture and Natural Resources	Ornamental Horticulture	Floral Design	450	YES	NO	Medium	\$39,400	YES	A.S., VCP	NO	-		NO
Arts, Media and Entertainment	Media and Design Arts	3-D Computer Graphics and Animation	635	YES	NO	High	\$44,800	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Computer Graphics and Design	700	YES	NO	High	\$35,700	YES	VCP	YES	A.A., A.S., VCP	Cerritos College, Fullerton College, Golden West College, Westwood College	NO
Arts, Media and Entertainment	Media and Design Arts	Introduction to Digital Photography	255	YES	YES	Medium	\$31,200	YES	A.A.	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Multimedia Design and Production	254	YES	YES	Medium	\$33,300	YES	A.A.	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Traditional Photography with an Introduction to the Digital Domain	1608	YES	YES	Medium	\$31,200	NO	-	YES	A.A., A.S., VCP	Cerritos College, Cypress College, Fullerton College	YES
Arts, Media and Entertainment	Media and Design Arts	Video Production	174	YES	YES	High	\$26,500	YES	A.A.	YES	A.A., A.S., VCP		NO
Arts, Media and Entertainment	Media and Design Arts	Visual Communications	435	YES	NO	Medium	\$33,300	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP	Fullerton College, Westwood College	YES
Arts, Media and Entertainment	Performing Arts	Professional Dance	180	NO	NO	Medium	Data Not Available	YES	A.A., VCP	YES	A.A., A.S., VCP		NO
Building Trades and Construction	Cabinetmaking and Wood Products	Wood Manufacturing Occupations	565	YES	NO	Medium	\$25,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Mechanical Construction	Heating, Ventilation, Air Conditioning (HVAC)	720	YES	YES	Medium	\$29,100	NO	-	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Brick Tender Apprenticeship	230	YES	NO	High	\$28,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Carpentry/Construction Occupations	730	YES	NO	Medium	\$26,000	YES	A.S., VCP	NO	-		NO
Building Trades and Construction	Residential and Commercial Construction	Masonry Occupations	1320	YES	NO	High	\$28,000	YES	A.S., VCP	NO	-		NO
Education, Child Development, and Family Services	Child Development	Basic Occupational Training	2000	YES	NO	Medium		NO	-	NO	-		NO
Education, Child Development, and Family Services	Child Development	Careers with Children/Preschool Assistant	480	YES	NO	Medium	\$20,800	YES	A.A.	NO	-	Cypress College	NO
Education, Child Development, and Family Services	Child Development	Principles of Teaching and Learning (formerly Careers in Teaching)	903	YES	NO	Medium	\$48,000	YES	A.A., VCP	NO	-	Cerritos College, Orange Coast College	YES
Education, Child Development, and Family Services	Education	Child Development	365	YES	NO	Medium	\$20,800	YES	VCP	NO	-	Cypress College	YES
Education, Child Development, and Family Services	Education	Special Education Instructional Aide	900	YES	YES	Medium	\$32,754	NO	-	NO	-		NO
Engineering and Design	Engineering Design	Introduction to Engineering Design	180	YES	NO	Medium	\$34,200	YES	A.S.	YES	A.A., A.S., VCP		YES
Engineering and Design	Engineering Design	Principles of Engineering	180	YES	NO	High	\$64,800	YES	A.S.	YES	A.A., A.S., VCP		YES
Labor Market Potential (High/Medium/Low)	High = > 15% growth Medium = Between 5%-15% Low = < 5% growth												
VCP=Vocational Certificate Program Wage information collected from the CA EDD web site													

A "Yes" in either the Fullerton or Cypress College Course column indicates a course that is or will be sequenced.

Appendix B North Orange County ROP Sectors and Pathways - By Course

Industry Sector	Career Pathway	NOCROP Course Name	Approved course hours (must be at least 150 to be a sequenced course)	NOCROP Record of Competency Available	Industry Certification Available	Labor Market Growth Potential (High/Medium/Low)	Annual California Mean Wage	Fullerton College Course	Fullerton College Certificate	Cypress College Course	Cypress College Certificate	Current Formal Articulation Agreements With	UC-a-g Qualified
Engineering and Design	Environmental and Natural Science Engineering	Introduction to Geographic Information Systems (GIS)	180	NO	NO	High	\$58,000	YES	A.A.	YES	A.A., A.S., VCP		NO
Engineering and Design	Architectural and Structural Engineering	Computer-Assisted Design and Manufacturing Technology	1320	YES	NO	Medium	\$41,600	YES	A.S., VCP	YES	A.A., A.S., VCP		NO
Engineering and Design	Engineering Design	Design & Fab. For Engr. Careers	180	YES	NO	Medium	\$30,800	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Finance and Business	Accounting Services	Accounting Occupations/Computerized Accounting	180	YES	NO	Medium	\$40,000	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Finance and Business	Banking and Related Services	Financial Services/Marketing (Banking)	180	YES	NO	High	\$22,900	YES	A.S., VCP	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Diagnostic Services & Therapeutic Services	Medical Careers I	180	YES	NO	High	\$21,700	YES	A.A.	YES	A.A., A.S., VCP	Cypress College, Orange Coast College	NO
Health Science and Medical Technology	Diagnostic Services & Therapeutic Services	Medical Careers II (formerly Allied Health Occupations - Advanced: Body Systems and Disorders)	180	YES	NO	High	\$21,700	YES	A.A.	YES	A.A., A.S., VCP		YES
Health Science and Medical Technology	Health Informatics	Computerized Medical Insurance Billing (Medisoft)	730	YES	YES	High	\$27,800	YES	A.A., VCP	NO	-		NO
Health Science and Medical Technology	Health Informatics	Dental Office Administration/Dentix	150	YES	NO	High	\$27,800	YES	A.A., VCP	NO	-		NO
Health Science and Medical Technology	Health Informatics	Medical Insurance Coding	144	YES	YES	High	\$27,800	YES	A.A.	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Support Services	Pharmacy Technician	1748	YES	YES	HIGH	\$27,000	NO	-	NO	-		NO
Health Science and Medical Technology	Therapeutic Services	Certified Nursing Assistant, Acute Care	180	YES	NO	High	\$22,000	YES	A.A., VCP	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Dental Assistant Occupations	425	YES	NO	High	\$20,900	YES	A.A., VCP	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Exploring Medical Careers	180	YES	NO	High	\$21,700	YES	A.A.	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Health Fitness and Sports Medicine	540	YES	YES	Medium	\$52,000	NO	-	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Medical Assistant - Administrative (Front Office)/Health Unit Coordinator	295	YES	YES	High	\$27,900	YES	A.A., VCP	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Medical Assistant - Clinical (Back Office)	641	YES	YES	High	\$28,600	YES	A.A.	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Nurse Assistant, Long-Term Care	1600	YES	YES	High	\$46,738	YES	A.A.	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Therapeutic Services	Vocational Nursing	705	YES	NO	High	\$42,460	YES	VCP	YES	A.A., A.S., VCP	Cypress College	NO
Health Science and Medical Technology	Therapeutic Services	Medical Core	90	YES	NO	High	\$28,600	YES	A.A.	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Food Service and Hospitality	Introduction to Culinary Arts	180	YES	YES	Medium	\$27,400	NO	-	YES	A.A., A.S., VCP	Cypress College	NO
Health Science and Medical Technology	Food Service and Hospitality	Advanced Culinary Arts	785	NO	YES	Medium	\$21,100	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Health Science and Medical Technology	Food Service and Hospitality	Culinary Arts Foundation	1160	YES	YES	High	\$33,500	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO
Labor Market Potential (High/Medium/Low)	High => > 15% growth Medium = Between 5%-15% Low = < 5% growth												
VCP=Vocational Certificate Program Wage Information collected from the CA EDD web site													

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Appendix B North Orange County ROP Sectors and Pathways - By Course

Industry Sector	Career Pathway	NOCROP Course Name	Approved course hours (must be at least 150 to be a sequenced course)	NOCROP Record of Competency Available	Industry Certification Available	Labor Market Growth Potential (High/Medium/Low)	Annual California Mean Wage	Fullerton College Course	Fullerton College Certificate	Cypress College Course	Cypress College Certificate	Current Formal Articulation Agreements With	UC a-g Qualified		
Hospitality, Tourism, and Recreation	Food Service and Hospitality	Prof Pastry Chef/Baker (formerly Advanced Baking and Pastry)	670	YES	YES	High	\$33,500	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO		
		Professional Chef (formerly Advanced Culinary Arts)	785	YES	YES	High	\$21,100	YES	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO		
		Retail Restaurant/Food Service Marketing Occupations	630	YES	NO	Medium	\$28,100	NO	-	-	YES	A.A., A.S., VCP		NO	
		Entertainment Park/Tourism Careers	903	YES	NO	High	\$18,000	NO	-	-	YES	VCP		NO	
		Business Technology: Administrative Systems/Computer Operations	360	YES	NO	Medium	\$40,000	YES	VCP	VCP	YES	A.A., A.S., VCP	Cerritos College, Cypress College	NO	
		Graphic Arts Technology	365	YES	NO	High	\$31,600	YES	A.A., A.S., VCP	-	NO	-		NO	
		Machine and Forming Technology	900	YES	NO	High	\$25,400	YES	VCP	VCP	NO	-		NO	
		Machine and Forming Technology	462	YES	YES	High		NO	-	-	NO	-		NO	
		Manufacturing and Product Development	Welding Technology	Welding/Metal Fabrication Occupations	1170	YES	YES	High	\$42,113	YES	A.S., VCP	NO	-		NO
				Entrepreneurship/Small Business	180	YES	NO	Medium	\$52,000	YES	A.S., VCP	YES	A.A., A.S., VCP		NO
Career Training for Transition	450			YES	YES			NO	-	-	NO	-		NO	
Cosmetology	435			YES	NO	Medium	\$18,000	YES	A.S., VCP	-	NO	-		NO	
Retail Careers	700			YES	NO	Medium	\$31,200	YES	A.A., A.S., VCP	A.A., A.S., VCP	YES	A.A., A.S., VCP		NO	
Aquatic/Marine Diving Occupations	720			YES	NO	High	\$77,183	YES	VCP	VCP	NO	-	Orange Coast College, Westwood College	NO	
Emergency Medical Technician (EMT)	560			YES	NO	High	\$21,300	YES	A.S., VCP	A.S., VCP	NO	-	Orange Coast College, Westwood College	NO	
Emergency Responder	81			YES	NO	High	\$21,300	YES	A.S., VCP	A.S., VCP	NO	-	Orange Coast College, Westwood College	NO	
Public Services	Protective Services			Introduction to Fire Technology	185	YES	NO	Medium	\$60,000	YES	A.S., VCP	NO	-		NO
				Legal and Law Enforcement Occupations	789	YES	YES	Medium	\$48,000	NO	-	-	YES	A.A., A.S., VCP	
		Introduction to Fire Technology	185	YES	NO	Medium	\$60,000	NO	-	-	NO	-		NO	
		Introduction to Forensic/Crime Scene Investigation	180	YES	NO	High	\$51,600	YES	A.A.A.S., VCP	A.A.A.S., VCP	YES	VCP		NO	
		Collision Repair and Refinishing	850	YES	NO	High	\$37,100	YES	VCP	VCP	YES	A.A., A.S., VCP		NO	
		Vehicle Maintenance, Service, and Repair	180	YES	YES	High	\$37,100	YES	A.A.	A.A.	YES	A.A., A.S., VCP	The Art Institute of California	NO	
		Vehicle Maintenance, Service, and Repair	480	YES	NO	High	\$37,100	YES	A.A.	A.A.	YES	A.A., A.S., VCP		NO	
		Labor Market Potential (High/Medium/Low)	High = > 15% growth Medium = Between 5%-15% Low = < 5% growth	VCP=Vocational Certificate Program											
				Wage information collected from the CA EDD web site											
				A "Yes" in either the Fullerton or Cypress College Course column indicates a course that is or will be sequenced.											