## RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT



Santiago Canyon College 8045 E. Chapman Ave. Orange, CA 92869



Santa Ana College 1530 W. 17<sup>th</sup> Street Santa Ana, CA 92706

## ARTICULATION AGREEMENT

College: Santa Ana College Contact Jeff Ash/ Don Mahany/ John				
Phone: (714) 564-6402	Contact: Thanh Nguyen / Dee Niedringhaus			
FAX #:(714) 564-6850	Phone: (71  FAX #:	4) 502-5874		
RSCCD Course  Fire Technology 10		h School / ROP Course		
	ulation Agreement Effective D	ates 2014 - 2015		
Signature, ASCCD Instructor  Jeff Ash	Signature, RSCCD Instructor	Signature, RSCCD Instructor		
Print Name 8/21/201	Print Name	Print Name		
Date	Date	Date		
Signature, RSCCD Division Dean	Signature, RSCCD Division Dean	Signature, RSCCD Division Dean		
Simon B. Hoffman Print Name	Print Name	Print Name		
Date	Date	Date		
Signature, HS/ROP mstructor	Signature, HS/ROP Instructor	Signature, HS/ROP Instructor		
Thanh Nguyen Print Name 8/31/12 Date	Print Name	Print Name		
	Date	Date		
Signature, HS/ROP Administrator	Signature, HS/ROP Administrator	Signature, HS/ROP Administrator		
Dee Niedringhaus Print Name 9/5//2	Print Name	Print Name		
Date	Date	Date		

NAME OF STA	TEWIDE ACADEMIC SENATE TEMPLATE FOLLOWS:
4.	
#	TITLE:

College Course Title	HS/ROP Course Title
Fire Protection Organization	Fire Science
Course #: Fire Technology 101	Course # Fire Technology 101 & 102
General Course Description	General Course Description
Survey of career opportunities in fire service and related fields, history of fire protection; fire loss analysis; public, quasi-public and private fire protection services; specific fire protection functions; fire chemistry and physics.	This course is designed to give students interested in a career in the Fire Service an opportunity to identify those qualifications and requirements for the position of Firefighter. Focus is on a variety of fire service related subjects, including a history of fire service, fire department organizations, fire behavior, firefighting tactics and strategies, hazardous materials, fire safety, tools, and equipment, fire prevention, fire protection systems, codes and standards, fire service occupations, and related subjects
College Units: 3 units	HS/ROP Hours: 185 Hours
College Prerequisite(s): None	HS/ROP Prerequisite(s):
College Advisories/Recommendations:	HS/ROP Advisories/Recommendations:

### REQUIRED CONTENT FOR ARTICULATION

#### FIRE SERVICE HISTORY - 3 Lec

Origins of the fire service, technological development in fire suppression equipment and techniques, note able historical figures.

### CAREER OPPORTUNITIES IN FIRE PROTECTION - 3 Lec

Course overview, history of fire service, development of paid fire department, development of insurance companies, modern methods of prevention and control, fire protection and defense. Careers in: fire protection, public education, sprinkler installation, private and public fire service firefighting, fire apparatus operation, paramedic service.

### FIRE SAFETY FOR PEOPLE AND PROPERTY - 3 Lec

Life and property loss; fundamental building design, life safety codes, hazards occupancies, types of

occupancies, industrial fire protection, public education and community relations.

#### **CHARACTERISTICS AND BEHAVIOR OF FIRE - 3 Lec**

Unpredictability of fire, sources of ignition, explosions, products of combustion.

#### FIRE HAZARDS OF MATERIALS - 3 Lec

Types of combustibles, solids, liquids, hazardous materials, flammable gases fire fighting and control.

#### INVESTIGATING THE FIRE LOSS PROBLEM - 3 Lec

Need for investigation, recording the fire problem, analyzing fire losses.

#### FIRE SAFE BUILDING DESIGN CONSTRUCTION - 3 Lec

Fundamentals of fire safety design, building and site planning for fire safety, exposure protection, confinement of smoke and fire.

#### MID TERM - 3 Lec

Evaluate the learning process for above topics.

#### FIRE PROTECTION SYSTEMS AND EQUIPMENT - 3 Lec

Water as an extinguishing agent, sprinkler systems, foam extinguishing system carbon dioxide systems, dry chemical systems, extinguishing systems for combustible metal, portable fire extinguishers.

#### ALARM DETECTION SYSTEMS AND DEVICES - 3 Lec

Public fire service communications, automatic and manual protective signaling devices, fire detection mechanisms and devices.

#### **MUTUAL FIRE DEFENSES - 3 Lec**

Evaluation and planning of public fire protection, master planning for fire protection, water for fire protection, water distribution systems.

## FIRE DEPARTMENT ORGANIZATION, ADMINISTRATION AND OPERATION - 3 Lec

Fire department organization, administration and management, fire suppression operations, fire prevention operations, public education, fire code enforcement.

# FIRE PROTECTION ORGANIZATION INFORMATION SOURCES AND CAREER OPPORTUNITIES, THE SCOPE OF FIRE PROTECTION ORGANIZATIONS - 3 Lec

Various organizations that effect fire department operations from federal, state, county and local jurisdictions.

#### **CODES AND STANDARDS - 3 Lec**

Development of fire protection regulations, formation and types of codes and standards, fire safety standards making organizations. The National Professional Qualifications system established by the Joint Council of National Fire Service Organizations including 101, 102, 1021, 1031, 1041, etc.

# ESTABLISHMENT OF NATIONAL STANDARDS OF PROFESSIONAL COMPETENCE FOR THE FIRE SERVICE - 1 Lec

Physical ability for firefighters, preparing for physical ability, the meaning of physical fitness, measuring physical fitness.

### FINAL - 3 Lec

A comprehensive evaluation of learning process.

INITIALS

INITIALS 2053

### COMPETENCIES AND SKILL REQUIREMENTS REQUIRED FOR ARTICULATION

(Use additional pages as necessary) Where appropriate, please incorporate standards being used (e.g. CTE standards). At the conclusion of this course, the student should be able to:

- Demonstrate awareness of industry standards, including those for sanitation.
- Compare the sources of training available between a fire department, county and state agencies and the post secondary educational system.
- Determine the origin, process and impact of a residential fire; identify burns; explain toxicity of smoke.
- Demonstrate the ability to discuss all aspects of safety and safety procedures utilized by fire fighters.
- Demonstrate the procedures for reporting a fire and receiving an alarm.
- · Understand the importance of education programs and community support; visit a local facility.
- · Discuss the history of fire service listing fires that have national and international interest.
- Describe the oral, written, physical and physical agility testing exams for the fire service.
- Describe the chain of command within the fire department; and pre-incident planning procedures.
- Discuss the roles of first responders, EMTs, and paramedics; compare their scopes of practice.
- Describe the various fire service facilities and the functions of firefighting equipment.
- Describe the make up and dynamics of a wild land fire; define wild land interface.
- Describe procedures for handling hazardous materials and for Standard Precautions.
- Define Class A and Class B fires; explain the portable extinguisher rating system.
- Describe the mental and physical fitness requirements a fire fighter must maintain.

### **MEASUREMENT METHODS**

(Includes any industry certification or licensure):

Case Studies

Class Discussions

**Electronic Delivery** 

**Group Study & Exercises** 

Handouts

Instructor Demonstrations

Lecture

Other

Reading Assignments

Visual Aids

Writing Projects & Reports

### **TEXTBOOKS OR OTHER SUPPORT MATERIALS** (Including Software):

College Required: Introduction to Fire Protection 3 <sup>rd</sup> Edition Delmar Cengage Learning. ISBN#1-4180-0177-5 \$105.25	High School / ROP
Recommended readings and/or materials: IFTA Essentials 4 <sup>th</sup> edition	
Other: Assess to camera	
COMMEN	TTC.

CON	MARCH 15.	
College	High School / ROP	

INITIALS

INITIALS

#### **COURSE OUTLINE**

COURSE TITLE:

INTRODUCTION TO FIRE TECHNOLOGY

**CBEDS TITLE:** 

FIRE CONTROL AND SAFETY

**CBEDS NO.:** 

5831

INDUSTRY SECTOR:

**PUBLIC SERVICES** 

JOB TITLE	O*Net Code
Forester Aide	45-4011.00
Fire Lookout	45-4011.00
Fire Crew Worker (Forestry)	33-2011.02
Fire Extinguisher Repairer	49-9043.00
Fire Extinguisher-Sprinkler Inspector/Repairer	10 00 10.00
Fire Equipment Inspector	33-2021.00
Fire Equipment Helper (Fire & Safety Helper)	33 232 1.33
Reserve Firefighter	
Fire Suppression Aide	
Utility Driver	

### **Course Description:**

This course is designed to give students interested in a career in the Fire Service an opportunity to identify those qualifications and requirements for the position of Firefighter. Focus is on a variety of fire service related subjects, including a history of fire service, fire department organizations, fire behavior, firefighting tactics and strategies, hazardous materials, fire safety, tools and equipment, fire prevention, fire protection systems, codes and standards, fire service occupations, and related subjects.

As part of instruction, this course reinforces skills in reading, writing, speaking, listening, and mathematics and requires their application in workplace situations. Integrated throughout the course are foundation standards, which include communication, ethics, interpersonal/team skills critical thinking and problem solving, safety, technology, and other employment skills. Students are given opportunities to demonstrate personal qualities, including responsibility, self-confidence, and self-management.

Students receive a total of 185 classroom hours.



#### INTRODUCTION TO FIRE TECHNOLOGY

#### **COURSE OUTLINE**

Upon successful completion of this course, students will be able to demonstrate the following skills necessary for entry-level employment.

Alignment of course competencies to California career technical education standards is indicated in italics throughout the course outline, as follows: FS reflects a foundation standard. Additional letters reflect appropriate pathway standards.

Additional hours for Foundation Standards are integrated into instruction in content area.

Additional hours for Foundation Standards are integrated into instruction in content area.				
Competencies	Hours Classroom	CTE Standards	Academic Standards	
I. FOUNDATION/ CAREER PREPARATION STANDARDS  A. Understand how personal skill development—including positive attitude, honesty, self-confidence, work ethic, time management, and other positive traits—affects employability.  1. Define professional responsibilities.  2. Understand the role of personal integrity and ethical behavior in the workplace.  3. Understand the importance of academic skills.  4. Define the professional role of individuals within the fire service.  5. Understand the importance of continual maintenance of physical fitness and health.  6. Understand the value of commitment and goal-setting.  7. Identify individual interests and aptitudes, and relate these to realistic occupational choices.  B. Understand principles of effective interpersonal relationships, including group dynamics, conflict resolution, diplomacy, problem solving, emotional maturity and teamwork.  1. Demonstrate respect for and effective interpersonal relationships with, both peers and superiors.		FS2.0,9.0	Academic Standards	
<ol> <li>Understand authority of rank and delegation of authority, as in other enforcement/public safety organizations.</li> <li>Recognize the importance of, and need for, interaction with other divisions within the organization.</li> <li>Understand how teamwork in the fire service affects the outcome of incidents.</li> <li>Understand laws dealing with sexual harassment and discrimination in public service.</li> <li>Recognize the importance of public relations and public education in the community.</li> <li>Appreciate the importance of high quality academic performance, critical thinking, and problem-solving</li> </ol>		FS1.0, 2.0, 5.0		
techniques.		C1.0		

Competencies	Hours Classroom	CTE Standards	Academic Standards
Recognize the importance of good reading comprehension, writing, and math skills.		STAGET COUNTY	(8)Reading 1.3, 2.1
<ol><li>Understand the need for establishing a plan or goal for self-improvement, as needed.</li></ol>		12.30	1.0, 2.1
<ol><li>Apply math skills to calculate engine pressures and water pressures.</li></ol>			
4. Be able to read, write, give and follow directions.			
<ol><li>Demonstrate the ability to spell correctly and use proper</li></ol>			
grammar, punctuation, and sentence construction.			
6. Demonstrate an ability to understand and enforce fire laws, codes, and standards			(8)Reading
7. Demonstrate an ability to understand and honor			2.6
department rules and regulations.			
8. Be able to prepare, write, file, and maintain various			
records and reports.  9. Demonstrate an ability to apply critical thinking and			
problem-solving skills on the job.			
10.Use appropriate reference materials for locating			(8)Reading
information.			2.1, 2.6
11. Discuss the importance of academic skills for recruitment and promotion.			
D. Understand principles of effective communication.		FS2.0	
Communicate effectively orally and in writing.			
2. Communicate effectively with members in the work-place and with the public.			
Understand verbal and non-verbal communication.			
Handle public inquiries effectively.			
5. Demonstrate use of effective telephone skills.			
<ul><li>6. Give a short oral presentation.</li><li>7. Submit a written report.</li></ul>			
E. Understand occupational safety considerations.		FS6.0	(8)Reading
1. Identify health and safety codes and related		C8.0	2.1,2.6
governmental regulations.			
<ol> <li>Identify inherent dangers and risks of the profession.</li> <li>Understand and follow safety procedures.</li> </ol>			100
Explain procedures for filing accident reports.			
5. Understand the relationship between physical fitness		C6.0	- 1000
and accident reduction.	74.8		
<ol><li>Identify safety problems that can occur during training exercises.</li></ol>			
7. Identify hazards around fire stations.			
8. List the eight components of personal protective gear.			
9. Identify hazards associated with emergency response.			
10. Identify all special hazards associated with the profession.			

Competencies	Hours Classroom	CTE Standards	Academic Standards
<ul> <li>F. Recognize current methods and strategies for obtaining employment as a firefighter.</li> <li>1. Identify salary ranges, benefits and working conditions in the fire service.</li> <li>2. Identify career paths within the fire service.</li> <li>3. Identify other related career options and their educational and training requirements.</li> </ul>		FS3.0	(8, 9/10, 11/12) Writing 2.5
<ol> <li>Fill out application forms effectively.</li> <li>Write a personal resume.</li> <li>Understand and demonstrate effective oral interviewing techniques.</li> <li>Identify available educational opportunities for advanced training.</li> <li>Understand the educational requirements for Certified</li> </ol>			(9/10) Listening/ Speaking 2.3
Firefighter I.  9. Understand what it takes to become a firefighter in today's labor market.  10. Understand the role that life experiences play in successful candidacy.  11. Discuss the use of civil service exams in recruitment			
<ul> <li>and the importance of good academic skills.</li> <li>G. Understand and adapt to changing technology.</li> <li>1. Understand the importance of lifelong learning in adapting to changing technology.</li> <li>2. Correctly use and care for all supplies and equipment.</li> <li>3. Understand the importance of computers in record keeping and communication.</li> <li>4. Use pagers, intercom, fax, and other communication technology.</li> </ul>		FS4.0 C4.0	
<ul> <li>H. Understand the importance of recognizing and dealing with stress.</li> <li>1. Identify physical and emotional manifestations of stress.</li> <li>2. Explain the physiology of stress.</li> <li>3. Identify causes of stress.</li> <li>4. Identify stress-reduction techniques.</li> </ul>		FS6.0, C6.0	
<ol> <li>Understand all aspects of the industry.</li> <li>Understand the role of planning in decision-making and responding to clients expectations.</li> <li>Discuss job responsibilities in a company and identify chain of command using an organizational chart.</li> <li>Distinguish different management styles and identify the role of management.</li> <li>Understand the cost of employee absenteeism and its impact on an organization's finances and salaries.</li> <li>Understand the impact of errors and misuse of resources on an organization's financial status.</li> </ol>		FS2.0,5.0 7.0,8.0	

Competencies	Hours	CTE Standards	Academic Standards
6. Identify the role of labor unions and/or professional		Cuttapias	Otanidalus
organizations.			
7. Discuss importance of maintaining a professional image			
to enhance community perception of the company/ industry.		·	
8. Understand how individual actions can affect the larger			
community.			,
9. Identify the impact of the industry on the environment			
and public safety.			
10. Identify the use of green technology within the industry sector.			
11. Identify industry practices that demonstrate a			
commitment to sustainability.			
II. FIRE SERVICE COMPONENTS	15		
A. Understand the national fire problem.	13		
Appreciate the meaning of annual statistics in terms of			
firefighter and civilian deaths and injuries.			
2. Recognize the impact of annual property loss figures			
due to fire.		·	*
B. Understand the historical implications in the development of		C8.0	
fire protection laws.			
Discuss the relationship between natural disasters and historical enactment of fire codes.			
2. Distinguish between urban and rural fire protection.			
3. Discuss ways in which population growth affects local			
fire protection.			
4. Identify organizations/agencies that develop and adopt			
fire codes and standards.			
III. FIRE BEHAVIOR	30	FS1.0	
A. Understand the characteristics of fire.	30	131.0	
1. Define fire.			
2. Understand the difference between the fire triangle and			
the fire tetrahedron.			
Explain the three different means of heat transfer.			
4. Explain the four basic classes of fire.			
5. Identify the four primary sources of ignition.			
<ul><li>6. Identify means of controlling fires.</li><li>7. Describe the three phases of fire.</li></ul>			
8. Explain the terms flashover, backdraft, and ignition			
temperature.			
B. Explain the problems associated with overexposure to heat		FS6.0	
upon the human body.			
Describe first, second, and third degree burn injury			
classifications.			
Describe percentage of burn.			

Competencies	Hours Classroom	CTE Standards	Academic Standards
<ol> <li>Understand treatment of serious burns today.</li> <li>Understand the difference between heat exhaustion and heat stroke.</li> <li>Understand the origin, process, and impact of house fires.</li> <li>Understand origin, development and progress of structure fires.</li> <li>Identify the role of time in a fire.</li> <li>Understand the toxicity of smoke in a fire.</li> <li>Recognize the role of carbon monoxide.</li> <li>Discuss plans, equipment, and education available to homeowners for prevention and survival of fire.</li> <li>Discuss the role of fire personnel in prevention of fire in structures.</li> </ol>			
<ul> <li>IV. FIRE DEPARTMENT ORGANIZATION <ul> <li>A. Identify basic components of a fire department.</li> <li>1. Identify numbers of firefighters in the U.S., both volunteer and career firefighters.</li> <li>2. Discuss the differences between volunteer and professional fire departments.</li> <li>3. Explain the fire department organizational chart.</li> <li>4. Explain chain-of-command.</li> <li>5. Identify ranks and their roles.</li> <li>6. Explain all the services provided by a fire department.</li> <li>7. Describe the relationship the fire department has with other city/county departments, i.e., police, finance, building, water, personnel.</li> <li>8. Discuss the expanding scope of the fire department.</li> <li>B. Understand how fire insurance rates are determined.</li> <li>1. Identify who determines fire insurance rates.</li> <li>2. Determine how this process takes place.</li> <li>3. Recognize how local fire departments efficiency affects rates.</li> </ul> </li> </ul>	20	C2.0, 5.0	
<ul> <li>C. Understand how the local water supply distribution system operates.</li> <li>1. Identify sources of water.</li> <li>2. Explain the distribution system.</li> <li>3. Define the term hydraulics.</li> <li>4. Define terms, including the following: fire flow, residual pressure, static pressure, friction loss, pressure, and volume.</li> </ul>		C9.0	
<ul> <li>/. FIRE DEPARTMENT OPERATIONS</li> <li>A. Understand the unique working conditions of firefighters.</li> <li>1. Understand shift work, hours, scheduling, sleeping, and cooking arrangements.</li> <li>2. Describe the typical working day of a firefighter.</li> </ul>	50	C3.0, 5.0	

	Competencies	Hours Classroom	CTE Standards	Academic Standards
	<ol> <li>Explain fire agencies dual role of suppression and rescue.</li> <li>Identify basic fire apparatus.</li> <li>Recognize common tools and equipment used in the fire service, such as screwdrivers and wrenches.</li> </ol>		C9.0	
C.	<ol> <li>Explain tool maintenance and care.</li> <li>Describe the types of emergency calls to which firefighters respond.</li> <li>Identify call frequency, duration, and location.</li> <li>Demonstrate CPR.</li> <li>Explain purpose and use of AEDs.</li> </ol>		C3.0,9.0	
	<ol> <li>Describe the "big four" in major emergency calls.</li> <li>Explain the term urban-search-and-rescue.</li> <li>Understand the 'Safe Surrender' law and recognize fire stations as safe havens.</li> </ol>			
	<ol> <li>Understand the concepts of fire ground management.</li> <li>Explain the Incident Command System and SEMS.</li> <li>Discuss strategy and tactics.</li> <li>Define offensive fire attack and defensive fire attack.</li> <li>Explain a time-temperature-fire curve.</li> <li>Name and describe the seven tactical priorities.</li> </ol>		C5.0, 8.0	
E. (	<ul> <li>Understand the steps taken during emergency response.</li> <li>Define size-up.</li> <li>Explain prefire planning.</li> <li>Understand the running card system.</li> <li>Explain the importance of first-in-district knowledge.</li> <li>Explain the five basic defensive driving techniques.</li> <li>Explain driving policy at intersections while responding to code 3.</li> </ul>		C5.0	
	Explain the importance of safety for firefighters during emergency and non-emergency periods.  1. Explain the function of a safety officer.  2. Explain proactive versus reactive.  3. Discuss typical fire ground accidents to firefighters.  4. Discuss the ways and means of accident prevention.		FS6.0	
G. U	Understand the importance of interagency cooperation.  1. Explain interaction with police at the scene of a fire.  2. Define scope of practice.  3. Identify the role of the department in evidence presentation.		C5.0	
2	Discuss the significance of fire reports.  1. Describe fire report systems in the fire service.  2. Discuss the benefits of a good emergency incident reporting system.  3. Describe the preparation, filing, and maintenance of fire reports.		C7.0	

Competencies			CTE Standards	Academic Standards
l.	<ol> <li>Discuss all the various forms and reports typical of a fire department.</li> <li>Discuss the function of fire investigation.</li> <li>Identify those who conduct investigations.</li> <li>Explain the terms cause of ignition and area of origin.</li> </ol>		C3.0	
J.	<ol> <li>Describe those steps normally taken to investigate a fire.</li> <li>Define arson.</li> <li>Discuss motivation for arson crimes.</li> <li>Discuss penalties for arson.</li> <li>Discuss fire department communications.</li> <li>Describe where fire communication centers are usually located and why.</li> <li>Discuss the fire dispatcher's role and the type of</li> </ol>		FS2.0	
К.	<ul> <li>equipment he/she uses.</li> <li>3. Discuss the critical relationship between the fire dispatcher and a fire company commander.</li> <li>4. Understand the role of computer technology in fire communications.</li> <li>Identify alarm and detection systems and devices.</li> <li>1. Describe municipal fire alarm systems.</li> <li>2. Identify the types of heat detectors.</li> <li>3. Discuss different types of smoke detectors.</li> </ul>		C9.0	
A.	RE PREVENTION CONCEPTS  Explain the importance of public education.  1. Discuss the importance of educating the public.  2. Discuss how public education is accomplished.  Discuss built-in fire protection systems in buildings.  1. Recognize components of automatic sprinkler systems.  2. Discuss the value of automatic sprinklers.	10	C5.0	
C.	<ol> <li>Discuss the value of automatic sprinklers.</li> <li>Define types of sprinkler systems.</li> <li>Recognize fire department sprinkler connections on buildings.</li> <li>Discuss types of standpipe and hose systems.</li> <li>Explain the four extinguishing properties of water.</li> <li>Identify non-water-based fire protection systems.</li> <li>Discuss four basic types of portable fire extinguishers.</li> <li>Define the care and use of extinguishers.</li> <li>Discuss the advantages and disadvantages of types of extinguishers.</li> <li>Explain the use of firefighting foam.</li> </ol>			
A.	ZARDOUS MATERIALS AND SPECIAL HAZARDS Define properties of combustible solids. Define and discuss weapons of mass destruction (CBRNE), and relate it to recent news events.	10	FS1.0 C3.0,5.0	

Competencies	Hours Classroom	CTE Standards	Academic Standards
1. chemical 2. biological 3. radiological 4. nuclear 5. explosive C. Distinguish flammable and combustible liquids. D. Discuss the hazards of gases. E. Define hazardous materials. 1. Discuss community-right-to-know laws. 2. Recognize typical haz mat calls. 3. Demonstrate how haz mat specialists handle emergencies. 4. Determine how hazardous materials are identified. 5. Appreciate how government agencies and private organizations complement fire service. 6. Define first-responder. F. Discuss problems associated with electricity. 1. Discuss hazards associated with electricity. 2. Explain safety precautions in incidents involved with electric current. G. Discuss radiation hazards. 1. Identify types of radiation. 2. Understand safety precautions in emergencies involving radiation materials.	Ogsadulli	FS6.0	Standards
<ul> <li>H. Explain the dangers associated with infectious disease exposure.</li> <li>1. Define infectious disease.</li> <li>2. Explain universal precautions.</li> <li>3. Discuss special precautions used by fire personnel during medical aid calls.</li> </ul>		FS6.0	
<ul> <li>VIII.BUILDING DESIGN AND CONSTRUCTION</li> <li>A. Discuss the historical aspects of major fire disasters and building construction.</li> <li>B. Identify the six types of building materials used and how they react during fires.</li> <li>C. Describe how buildings are designed for public fire safety.</li> <li>D. Describe how ventilation operations by firefighters are affected by types of construction.</li> <li>E. Understand how designers improve building exposure problems.</li> </ul>	10	FS10.0	
IX. CODES AND STANDARDS  A. Explain the historical development of fire codes and standards.  B. Define building code.  1. Discuss the Uniform Building Code.	10	C8.0	

	Competencies	Hours Classroom	CTE Standards	Academie Standards
C. D.	<ol> <li>Describe how the U.B.C. protects people.</li> <li>List the five types of buildings.</li> <li>Describe the Uniform Fire Code.</li> <li>Identify the National Fire Protection Association.</li> <li>Discuss the N.F.P.A. publications.</li> <li>Explain the N.F.P.A. Life Safety Code, Standard 101.</li> <li>Discuss the benefits the N.F.P.A. provides the fire service and the public.</li> <li>Explain how a local fire department enacts and enforces fire codes and ordinances.</li> </ol>			
TOTAL	HOURS	185		

Content standards addressed in class assignments throughout the course include the following:

### **Language Arts**

### **Grade 8**

Reading: 1.3, 2.1, 2.6 Writing: 1.3, 1.4, 2.6

### Grades 9-10

Reading: 2.1, 2.3, 2.6

Writing: 1.3

#### **Mathematics**

Number Sense: 1.2, 1.3

Measurement & Geometry: 2.1

Mathematical Reasoning: 1.1, 1.2, 2.1, 2.6, 2.8, 3.1

# Rancho Santiago Community College District

(Santa Ana College & Santiago Canyon College)

# **Articulation Agreement** for North Orange County ROP Course

Fire Technology Department of Rancho Santiago Community College District agrees to accept the North Orange County ROP course(s) identified below in lieu of the college course(s) listed, and agrees to award the number of college units indicated (or to award advanced placement) upon successful completion of the high school/ROP course and any attendant terms/conditions agreed to by the two institutions.

Agreement with: North Orange County Regional Occupational Program

RSCCD Course(s)	High School/ROP Course(s)	Units
Fire Technology 101 Fire Protection Organization	Introduction to Fire Technology	3
		3.00

Specific Terms/Conditions: This agreement is limited to the high school students who receive an "A" or "B" from the Instructors of Record for the ROP Introduction to Fire Technology course, as specified in this agreement. In order to receive college credit, students need to complete Petition for Credit through Articulated Coursework form and other required paperwork and provide transcript.

Articulation Agreement Effective Dates (Academic Years):

Please contact M. Lucy Sims of Santa Ana College at (714) 564-6224.

	2008-2009	2009-20010	<b>X</b> 2010-2011	,
Approved:				11/10/09
Signature, RSCCD				Date
Signature, RSCCD	Division Dean			11/10/09 Date

Signature, High School/ROP Instructor

Thanh Nguyen

Signature, High School/ROP Administrator

Karen Nelson, NOCROP

11-4-09 Date

Date