

FIRE SCIENCE

# PROGRAM REVIEW 12 - 13

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For the Period of Fall 2010 through Spring 2012

PALO VERDE COLLEGE  
ONE COLLEGE WAY  
BLYTHE, CA 92225

# EXECUTIVE SUMMARY

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## FIRE SCIENCE

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The Program Review Committee met and reviewed the Fire Science Technology two-year update on March 12, 2013.

We have accepted the report, with the following findings:

- There were no significant changes to the program in the last two years.
- There is adequate demand for the program.
- The program is of high quality due to the ongoing identification and assessment of student learning outcomes, and curriculum alignment with the California State Fire Marshall requirements.
- External issues exist, but do not interfere with the program's ability to meet student needs.
- The cost of the program is such that income exceeds expenditures.
- The program is on track to continue, with goals identified for the next two years.

## PART 1: PURPOSE OF THIS PROGRAM

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The purpose of the program is to provide first responders and public safety officers of California with the necessary skills to work in their ever-changing environment. Palo Verde College will continue to contract with the most highly skilled educators to provide state-of-the-art fire training and hazardous materials training in the State of California.

## PART 2: DEMAND FOR THIS PROGRAM

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### **Job Outlook:**

Most job openings will be created by the need to replace Fire Fighters who retire, transfer to supervisory positions, or leave the field for other reasons. Fire Fighting occupations attract many job seekers because the work is challenging, a high school diploma is sufficient for entry, and pensions are offered upon retirement. The number of qualified applicants is usually greater than the number of job openings in most communities. Applicants can improve their employment opportunities by completing a Fire Fighting program at a community college, and by obtaining emergency medical technician (EMT) certification.

### **Projections of Employment:**

In California, the number of Fire Fighters is expected to grow slower than average growth rate for all occupations. Jobs for Fire Fighters are expected to increase by 7.0 percent, or 2,300 jobs between 2010 and 2020.

#### **Occupations Matched to Top Code(s):**

332011 *Fire Fighters*

**Geography:** Riverside-San Bernardino-Ontario MSA

**Counties:** Riverside County, San Bernardino County

<b>Estimated Employment and Projected Growth Fire Fighters</b>					
<b>Geographic Area (Estimated Year- Projected Year)</b>	<b>Estimated Employment</b>	<b>Projected Employment</b>	<b>Numeric Change</b>	<b>Percent Change</b>	<b>Additional Openings Due to Net Replacements</b>
California (2010-2020)	33,100	35,400	2,300	7.0	9,100

Source: EDD/LMID [Projections of Employment by Occupation](#)

## **Annual Job Openings:**

In California, an average of 230 new job openings per year is expected for Fire Fighters, plus an additional 910 job openings due to net replacement needs, resulting in a total of 1,140 job openings.

### **Occupations Matched to Top Code(s):**

332011 *Fire Fighters*

**Geography:** Riverside-San Bernardino-Ontario MSA

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<b>Estimated Average Annual Job Openings Fire Fighters</b>			
<b>Geographic Area (Estimated Year- Projected Year)</b>	<b>Jobs From Growth</b>	<b>Jobs Due to Net Replacements</b>	<b>Total Annual Job Openings</b>
California (2010-2020)	230	910	1,140

Source: EDD/LMID [Projections of Employment by Occupation](#)

<sup>1</sup>Total Job Openings are the sum of new jobs from growth plus net replacements. Annual job openings are total job openings divided by the number of years in the projection period.

<sup>2</sup>This occupation has been suppressed due to confidentiality.

## **PART 3: QUALITY OF THIS PROGRAM**

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Presently, Palo Verde College offers five certificates in the Fire Science field and one AS degree in Hazardous Materials. In the past year, we have developed Student Learning Outcomes (SLOs) for these courses. Since each of these courses are necessary to public safety, the instructors of these courses require the participants to pass exams specific to any given Fire Science skill with 100% accuracy. This data can be demonstrated through SLO analysis for each of the FST courses offered through Palo Verde College. In addition, Palo Verde College has been working closely with instructors in this area to revise, update, and create new curriculum as required in their trade which also aligns with the California State Fire Marshall requirements. Palo Verde College is looking to address remote students in this field who might be interested in pursuing an AS degree in Fire Science. Through this process, Palo Verde College will determine if a need for this degree exists and methods in which to offer it online to remote students. It is important to note that a majority of the students who pursue completion of FST courses live in areas of California outside of the Blythe area.

## PART 4: EXTERNAL ISSUES

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The Fire Science Program continues to try and keep pace with the changing curriculum at the State Fire Marshal's office. Course content is being modified continually. As state-level budget shortfalls occur, the number of FST courses that are offered may decline. As post 9/11 money diminishes, many battalions, fire departments, and public safety officers will need to continue their training, but may be forced to limit the amount of training that they can afford. For this reason, the Accreditation Team recommended that PVC not rely so heavily on this as a source of FTES generation. We are currently attempting to diversify the courses in which we offer and create powerful and demanded degrees and certificates which will continue to be needed even if state budget cuts affect public safety training monies.

## PART 5: COST OF THIS PROGRAM

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### Fire Science Expenses, FTES, and Profit:

2010-2011	SALARIES	BENEFITS	SUPPLIES	CONTRACTS	TOTAL EXP.	FTES	FTES (\$) GENERATED	PROFIT
FST	\$ 104,568.92	\$ 19,743.95	\$ 0.90	\$ 866,595.37	\$ 990,909.14	386.67	\$ 1,765,082.82	\$ 774,173.68
2010-2011	SALARIES	BENEFITS	SUPPLIES	CONTRACTS	TOTAL EXP.	FTES	FTES (\$) GENERATED	PROFIT
FST	\$ 37,234.20	\$ 4,686.09	\$ 19.52	\$ 462,497.38	\$ 504,437.19	302.45	\$ 1,380,632.83	\$ 876,195.64

### Equation for FTES Calculation: (WSCH \* TLM \* #of students) / 525

FTES Generated 2010-11=**386.67**      Cost of Program 2010-2011=**\$ 990,909.14**      Profit 2010-2011=**\$ 774,173.68**

FTES Generated 2011-12=**302.45**      Cost of Program 2011-2012=**\$ 504,437.19**      Profit 2011-2012=**\$ 876,195.64**

**\*1 FTES=\$4564.83**

**\*\* (FTES x \$4564.83) – Cost of Program = Profit/Loss**

## PART 6: TWO-YEAR PLAN

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Fire Science faculty and staff will work towards the following goals:

- Continue to update, revise, and design new curriculum as needed.
- Work with other districts to allow PVC to offer courses in their institution's geographic area.
- Work towards and assist with the distance learning matriculation process to increase program completers.
- Continue implementing online registration and enrollment to better streamline operations.
- Analyze SLO data to determine course and program effectiveness.
- Continue evaluating instructors who teach FST courses.

