Program Name:

Fire Science Program

A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2006-07, 2007-08, 2008-09

1. List the objectives developed for this program during the last comprehensive program review.

2005-2009 Objectives

a) Develop a Training Complex.

b) Develop and implement a joint Fire Academy with IVC and Imperial County.

c) Implement 6-day class schedule.

d) Relocate the Fire Program to a new Applied Science building.

2. Present program performance data in tabular form for the previous three years that demonstrates the program's performance toward meeting the previous objectives. Include the following standard program performance metrics as well additional program specific metrics, if any.

   For teaching programs, this data should include at least the following: Enrollment at census, number of sections, fill rate, retention rate, success rate, and grade distribution for each course in the program, during each semester and session of the previous three academic years. In addition, the Full Time Equivalent Faculty (FTEF) and Full Time Equivalent Students (FTES) and the ratio of FTES per FTEF should be presented for the program for each semester and session.

a) ***Enrollments:***

Fire Science Program Enrollment Count at Census																	
Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
FIRE 100	11	17	18	46	10	16	17	43									89
FIRE 101					11	14	8	33									33
FIRE 102					11	14	14	39									39
FIRE 103	17	14	15	46													46
FIRE 104	10	6	18	34													34
FIRE 105	0	10	8	18	4	13	7	24									42
FIRE 107					4	0	2	6	0	0		0					6
FIRE 120	17	20	21	58													58
FIRE 121					21	16	13	50									50
FIRE 122													19	16	17	52	52
FIRE 130	21	14	15	50													50
FIRE 131					16	13	12	41									41
FIRE 200							16	16									16
FIRE 202									15			15					15
FIRE 203														16		16	16
FIRE 204	9	14		23											16	16	39
FIRE 205							29	29									29
FIRE 206							26	26									26
FIRE 207		15		15													15
FIRE 208		21		21													21
FIRE 209					10			10									10
FIRE 210					8			8									8
FIRE 211					23			23									23
Total	85	131	95	311	118	86	144	348	15	0		15	19	32	33	84	758

b) ***Sections:***

Fire Science Program Number of Sections																	
Course	Fall				Spr.				Sum.				Win.				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
FIRE 100	1	1	1	3	1	1	1	3									6
FIRE 101					1	1	1	3									3
FIRE 102					1	1	1	3									3
FIRE 103	1	1	1	3													3
FIRE 104	1	1	1	3													3
FIRE 120	1	1	1	3													3
FIRE 121					1	1	1	3									3
FIRE 122													1	1	1	3	3
FIRE 130	1	1	1	3													3
FIRE 131					1	1	1	3									3
FIRE 200							1	1									1
FIRE 202									1			1					1
FIRE 203														1		1	1
FIRE 204	1	1		2											1	1	3
FIRE 205							1	1									1
FIRE 206							1	1									1
FIRE 207		1		1													1
FIRE 208		1		1													1
FIRE 209					1			1									1
FIRE 210					1			1									1
Total	6	8	5	19	7	5	8	20	1			1	1	2	2	5	45

c) ***Fill Rates:***

Fire Science Program Fill Rate																	
Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
FIRE 100	55%	85%	90%	77%	50%	80%	85%	72%									74%
FIRE 101					55%	70%	40%	55%									55%
FIRE 102					55%	70%	70%	65%									65%
FIRE 103	85%	70%	75%	77%													77%
FIRE 104	50%	30%	90%	57%													57%
FIRE 120	85%	100%	105%	97%													97%
FIRE 121					105%	80%	65%	83%									83%
FIRE 122													95%	80%	85%	87%	87%
FIRE 130	####	70%	75%	83%													83%
FIRE 131					80%	65%	60%	68%									68%
FIRE 200							80%	80%									80%
FIRE 202									75%			75%					75%
FIRE 203														80%		80%	80%
FIRE 204	45%	70%		58%											80%	80%	65%
FIRE 205							145%	145%									145%
FIRE 206							130%	130%									130%
FIRE 207		75%		75%													75%
FIRE 208		105%		105%													105%
FIRE 209					50%			50%									50%
FIRE 210					40%			40%									40%

d) ***Student Success Rates:***

Fire Science Program Student Success Rate																	
Course	Fall				Spring				Summer				Winter				3-Year Average
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
FIRE100	91%	86%	33%	70%	50%	38%	41%	43%									56%
FIRE101					36%	86%	38%	53%									53%
FIRE102					82%	64%	29%	58%									58%
FIRE103	65%	86%	87%	79%													79%
FIRE104	40%	67%	44%	50%													50%
FIRE105		40%	63%	51%	25%	62%	29%	38%									44%
FIRE107					50%		100%	75%									75%
FIRE120	71%	100%	76%	82%													82%
FIRE121					81%	81%	62%	75%									75%
FIRE122													84%	81%	88%	85%	85%
FIRE130	76%	100%	88%	88%													88%
FIRE131					94%	100%	92%	95%									95%
FIRE200							100%	100%									100%
FIRE202									100%			100%					100%
FIRE203														100%		100%	100%
FIRE204	78%	100%		89%											100%	100%	93%
FIRE205							100%	100%									100%
FIRE206							100%	100%									100%
FIRE207		100%		100%													100%
FIRE208		100%		100%													100%
FIRE209					90%			90%									90%
FIRE210					100%			100%									100%
FIRE211					100%			100%									100%
Avg.	70%	86%	65%	76%	71%	72%	69%	70%	100%			100%	84%	91%	94%	91%	75%

e) ***Student Retention Rates:***

Fire Science Program Student Retention Rate																	
Course	Fall				Spring				Summer				Winter				3-Yr. Average
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
FIRE100	91%	100%	67%	86%	70%	63%	71%	68%									77%
FIRE101					82%	100%	63%	81%									81%
FIRE102					82%	86%	50%	73%									73%
FIRE103	71%	86%	87%	81%													81%
FIRE104	90%	100%	78%	89%													89%
FIRE105		70%	63%	66%	100%	92%	57%	83%									76%
FIRE107					100%		100%	100%									100%
FIRE120	####	100%	90%	97%													97%
FIRE121					86%	94%	85%	88%									88%
FIRE122													100%	94%	94%	96%	96%
FIRE130	81%	100%	88%	89%													89%
FIRE131					100%	100%	100%	100%									100%
FIRE200							100%	100%									100%
FIRE202									100%			100%					100%
FIRE203														100%		100%	100%
FIRE204	89%	100%		94%											100%	100%	96%
FIRE205							100%	100%									100%
FIRE206							100%	100%									100%
FIRE207		100%		100%													100%
FIRE208		100%		100%													100%
FIRE209					100%			100%									100%
FIRE210					100%			100%									100%
FIRE211					100%			100%									100%
Avg.	87%	95%	79%	88%	92%	89%	82%	88%	100%			100%	100%	97%	97%	98%	89%

f) ***Grade Distribution:***

Grade Distribution																
Term	Sem.	Year	Program	Course	A	B	C	CR	D	F	Other	W	Total	# Succeed	Success Rate	Retention Rate
200710	Fall	2006	FIRE	FIRE100	3	5	2					1	11	10	90.9%	90.9%
200710	Fall	2006	FIRE	FIRE103	4	6	1		1			5	17	11	64.7%	70.6%
200710	Fall	2006	FIRE	FIRE104		2	2		1	4		1	10	4	40.0%	90.0%
200710	Fall	2006	FIRE	FIRE120		7	5		2	3			17	12	70.6%	100.0%
200710	Fall	2006	FIRE	FIRE130		9	7		1			4	21	16	76.2%	81.0%
200710	Fall	2006	FIRE	FIRE204		6	1			1		1	9	7	77.8%	88.9%
200715	Win.	2007	FIRE	FIRE122	7	4	5		1	2			19	16	84.2%	100.0%
200720	Spr.	2007	FIRE	FIRE100	4		1			2		3	10	5	50.0%	70.0%
200720	Spr.	2007	FIRE	FIRE101	1	3			1	4		2	11	4	36.4%	81.8%
200720	Spr.	2007	FIRE	FIRE102	2	3	4					2	11	9	81.8%	81.8%
200720	Spr.	2007	FIRE	FIRE105			1			2	1		4	1	25.0%	100.0%
200720	Spr.	2007	FIRE	FIRE107	1					1			2	1	50.0%	100.0%
200720	Spr.	2007	FIRE	FIRE121	8	8	1			1		3	21	17	81.0%	85.7%
200720	Spr.	2007	FIRE	FIRE131		4	11		1				16	15	93.8%	100.0%
200720	Spr.	2007	FIRE	FIRE209		7	2			1			10	9	90.0%	100.0%
200720	Spr.	2007	FIRE	FIRE210	1	6	1						8	8	100.0%	100.0%
200720	Spr.	2007	FIRE	FIRE211	22								22	22	100.0%	100.0%
200730	Sum.	2007	FIRE	FIRE202	14								14	14	100.0%	100.0%
200810	Fall	2007	FIRE	FIRE100	4	4	4		2				14	12	85.7%	100.0%
200810	Fall	2007	FIRE	FIRE103	4	2	6					2	14	12	85.7%	85.7%
200810	Fall	2007	FIRE	FIRE104	2	1	1			2			6	4	66.7%	100.0%
200810	Fall	2007	FIRE	FIRE105		1	3			3		3	10	4	40.0%	70.0%
200810	Fall	2007	FIRE	FIRE120	2	12	6						20	20	100.0%	100.0%
200810	Fall	2007	FIRE	FIRE130	1	11	2						14	14	100.0%	100.0%

Grade Distribution continued																
Term	Sem.	Year	Program	Course	A	B	C	CR	D	F	Other	W	Total	# Succeed	Success Rate	Retention Rate
200810	Fall	2007	FIRE	FIRE204	4	9	1						14	14	100.0%	100.0%
200810	Fall	2007	FIRE	FIRE207	15								15	15	100.0%	100.0%
200810	Fall	2007	FIRE	FIRE208	21								21	21	100.0%	100.0%
200815	Win.	2008	FIRE	FIRE122	6	5	2		1	1		1	16	13	81.3%	93.8%
200815	Win.	2008	FIRE	FIRE203	15	1							16	16	100.0%	100.0%
200820	Spr.	2008	FIRE	FIRE100		6			1	3		6	16	6	37.5%	62.5%
200820	Spr.	2008	FIRE	FIRE101	5	2	5			2			14	12	85.7%	100.0%
200820	Spr.	2008	FIRE	FIRE102	6	3			3			2	14	9	64.3%	85.7%
200820	Spr.	2008	FIRE	FIRE105	3	3	2			4		1	13	8	61.5%	92.3%
200820	Spr.	2008	FIRE	FIRE121	1	6	6		1	1		1	16	13	81.3%	93.8%
200820	Spr.	2008	FIRE	FIRE131		5	8						13	13	100.0%	100.0%
200910	Fall	2008	FIRE	FIRE100		1	5		4	2		6	18	6	33.3%	66.7%
200910	Fall	2008	FIRE	FIRE103	3	3	7					2	15	13	86.7%	86.7%
200910	Fall	2008	FIRE	FIRE104	1	3	4		4	2		4	18	8	44.4%	77.8%
200910	Fall	2008	FIRE	FIRE105		5						3	8	5	62.5%	62.5%
200910	Fall	2008	FIRE	FIRE120	3	12	1		1	2		2	21	16	76.2%	90.5%
200910	Fall	2008	FIRE	FIRE130		7	7					2	16	14	87.5%	87.5%
200915	Win.	2009	FIRE	FIRE122		11	4		1			1	17	15	88.2%	94.1%
200915	Win.	2009	FIRE	FIRE204	5	8	1						14	14	100.0%	100.0%
200920	Spr.	2009	FIRE	FIRE100		3	4		2	3		5	17	7	41.2%	70.6%
200920	Spr.	2009	FIRE	FIRE101	2	1				2		3	8	3	37.5%	62.5%
200920	Spr.	2009	FIRE	FIRE102	3		1		3			7	14	4	28.6%	50.0%
200920	Spr.	2009	FIRE	FIRE105		1	1			2		3	7	2	28.6%	57.1%
200920	Spr.	2009	FIRE	FIRE107	1								1	1	100.0%	100.0%
200920	Spr.	2009	FIRE	FIRE121	2	5	1		3			2	13	8	61.5%	84.6%
200920	Spr.	2009	FIRE	FIRE131	2	6	3			1			12	11	91.7%	100.0%
200920	Spr.	2009	FIRE	FIRE200	13	1							14	14	100.0%	100.0%
200920	Spr.	2009	FIRE	FIRE205	28	1							29	29	100.0%	100.0%
200920	Spr.	2009	FIRE	FIRE206	24								24	24	100.0%	100.0%
					243	209	129		34	51	1	78	745	581		

g) ***Full Time Equivalent Student:***

Fire Science Program Full Time Equivalent Student (FTEs)																	
Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
FIRE 100	1.1	1.8	1.9	4.8	1.0	1.7	1.8	4.5									9.2
FIRE 101					1.1	1.5	0.3	2.9									2.9
FIRE 102					1.1	1.5	1.5	4.0									4.0
FIRE 103	1.8	1.5	1.6	4.8													4.8
FIRE 104	1.0	0.6	1.9	3.5													3.5
FIRE 105	0.0	0.0	0.0	0.0	0.0	0.0		0.0									0.0
FIRE 107					0.0	0.0		0.0	0.0	0.0		0.0					0.0
FIRE 120	1.1	2.0	2.0	5.1													5.1
FIRE 121					1.7	0.3	0.7	2.6									2.6
FIRE 122													0.3	0.2	0.2	0.8	0.8
FIRE 130	5.4	5.2	3.3	13.9													13.9
FIRE 131					4.2	2.7	7.5	14.4									14.4
FIRE 200							1.0	1.0									1.0
FIRE 202									0.9			0.9					0.9
FIRE 203														1.1		1.1	1.1
FIRE 204	0.4	1.2		1.5											1.0	1.0	2.5
FIRE 205							1.3	1.3									1.3
FIRE 206							1.2	1.2									1.2
FIRE 207		2.1		2.1													2.1
FIRE 208		4.3		4.3													4.3
FIRE 209					0.9			0.9									0.9
FIRE 210					0.7			0.7									0.7
FIRE 211					2.0			2.0									2.0
Total	10.8	18.6	10.6	40.0	12.7	7.5	15.2	35.4	0.9	0.0		0.9	0.3	1.3	1.2	2.9	79.2

h) ***Full Time Equivalent Faculty:***

Fire Science Program Full Time Equivalent Faculty (FTEf)																	
Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
FIRE 100	0.2	0.2	0.2	0.6	0.2	0.2	0.2	0.6									1.2
FIRE 101					0.2	0.2	0.2	0.6									0.6
FIRE 102					0.2	0.2	0.2	0.6									0.6
FIRE 103	0.2	0.2	0.2	0.6													0.6
FIRE 104	0.2	0.2	0.2	0.6													0.6
FIRE 120	0.2	0.2	0.2	0.6													0.6
FIRE 121					0.1	0.1	0.1	0.2									0.2
FIRE 122													0.0	0.0	0.0	0.1	0.1
FIRE 130	0.5	0.5	0.5	1.4													1.4
FIRE 131					0.5	0.5	0.5	1.4									1.4
FIRE 200							0.1	0.1									0.1
FIRE 202									0.1			0.1					0.1
FIRE 203														0.1		0.1	0.1
FIRE 204	0.1	0.1		0.3											0.1	0.1	0.4
FIRE 205							0.1	0.1									0.1
FIRE 206							0.1	0.1									0.1
FIRE 207		0.1		0.1													0.1
FIRE 208		0.1		0.1													0.1
FIRE 209					0.1			0.1									0.1
FIRE 210					0.1			0.1									0.1
Total	1.4	1.7	1.3	4.4	1.4	1.1	1.5	4.0	0.1			0.1	0.0	0.2	0.2	0.4	8.9

i) FTEs per FTEf:

Fire Science Program FTEs per FTEf																	
Course	Fall				Spring				Summer				Winter				Overall Avg.
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
FIRE 100	5.7	8.8	9.3	7.9	5.2	8.3	8.8	7.4									7.7
FIRE 101					5.7	7.3	1.6	4.9									4.9
FIRE 102					5.7	7.3	7.3	6.7									6.7
FIRE 103	8.8	7.3	7.8	7.9													7.9
FIRE 104	5.2	3.1	9.3	5.9													5.9
FIRE 120	5.6	9.9	10.1	8.5													8.5
FIRE 121					25.1	4.7	9.9	13.2									13.2
FIRE 122													10.0	7.4	7.3	8.2	8.2
FIRE 130	11.2	10.8	6.9	9.7													9.7
FIRE 131					9.1	5.8	16.3	10.4									10.4
FIRE 200							7.3	7.3									7.3
FIRE 202									6.9			6.9					6.9
FIRE 203														8.0		8.0	8.0
FIRE 204	2.8	8.6		5.7											7.3	7.3	6.2
FIRE 205							9.9	9.9									9.9
FIRE 206							8.9	8.9									8.9
FIRE 207		15.4		15.4													15.4
FIRE 208		32.4		32.4													32.4
FIRE 209					6.4			6.4									6.4
FIRE 210					5.1			5.1									5.1
FIRE 211																	
Avg.	7.6	11.0	8.3	9.1	9.1	6.7	10.0	8.8	6.9			6.9	10.0	7.9	7.3	7.8	8.9

3. Present student learning or service area outcomes data that demonstrate the program's continuous educational and/or service quality improvement. Include the following standard information and metrics as well as additional program specific metrics, if any.

   List the program level outcomes, goals or objectives and show how these support the Institutional Student Learning Outcomes. Identify the method(s) of assessment used for each of the program level outcomes. Provide a summary of the outcome data for the program, including course and program level data as appropriate.

a) Course SLOs, Cycle Assessment, and Strength in Alignment with ISLOs

				4 = strong focus	3 = a focus, w/ assess	2 = a focus, no assess	1 = brief, no assess	0 = not address	
Crs	Title	**Course SLOs**	**Cycle Assessment**	Comm Skill	Critical Think	Person Respon	Info Literacy	Global Aware.	**Total # SLOs**
100	Protection Organization	• Apply basic emergency incident management strategies in relationship to incident command systems in public and private fire protection careers	Not done	3	3	1	0	0	1
101	Prevention Technology	• Analyze the relationship between fire prevention efforts and the resulting reduction on life and property loss and present analysis verbally and/or in writing	Not done	3	3	1	0	0	1
102	Protection Equipment & Systems	• Within a given scenario, analyze, prepare, and present a fire protection system that demonstrate complete coverage with regards to sprinkler, hood, duct, and special application protection of residential, commercial, industrial, and school property	Not done	3	3	1	0	0	1
103	Building Construction	• Within a given scenario, analyze, prepare, and present a building construction system that demonstrates knowledge in building materials, building construction, occupancy requirement, and occupant and fire safety	Not done	3	3	0	1	0	1
104	Behavior and Combustion	• Within a given scenario, analyze a typical transportation load of hazardous materials, and determine proper placarding and determine incompatible loading and define, in writing, the physical properties of dangerous chemicals	Not done	3	3	1	1	0	1
105	EMT	• Demonstrates effective CPR and management of bleeding/shock using standard precautions	Not done	3	3	1	0	0	1
106	First Responder	• Demonstrates effective CPR for adult, children, and infant	Not done	3	3	0	0	0	1

107	EMT Refresher	• Completes a trauma patient assessment and spinal immobilization on a supine patient in simulated setting	Not done	3	3	0	0	0	1
108	Emer.Service Safety & Survival	*Pending – new course fall 2009*	Not done						0
109	Haz Mat	• Demonstrate knowledge of hazardous materials and responding to given incidents involving hazardous materials at the First Responder Operational level	Not done	3	3	1	0	0	1
117	Auto Extraction	• Demonstrates rescue techniques and use of auto extrication tools	Not done	3	3	0	0	0	1
118	Oil and Fire Control	• Demonstrates operation and performance of oil and gas firefighting tactics	Not done	3	3	0	0	0	1
121	ICS 200	• Identify and explain how incident organization expands and contracts to meet the operational needs of the incident and steps involved in proper incident resource management	Not done	3	3	1	0	0	1
122	Confined Space	• Demonstrate knowledge of confined spaces and permit-required confined space and procedures for special work situations	Not done	3	3	0	0	0	1
130	Academy I	• Demonstrate proficient use, inspection, test, and maintenance of tools, equipment, and accessories necessary to perform the job of a firefighter, including but not limited to hand, power, and hydraulic tools, chair, circular saws, forcible entry tools, air chisels, lighting equipment, fire service jack, flares, or fuses, thermal imaging devices, and navigational tool	Not done	1	3	3	0	0	1
131	Academy II	• Demonstrate knowledge to understand the characteristics of wildland fire behavior, fire weather, and unique aspects of wildland firefighting, including methods and techniques for containment and extinguishment	Not done	1	3	3	0	0	1
220	Apparatus 1A - Driver	• Select and use appropriate methods and materials to complete laboratory assignments to standards based on building type, location of fire, and other apparatus responding to scene	Not done	0	3	3	0	0	1
221	Apparatus 1 B - Pump	• Select proper engine pressure when pumping multiple liners and knowledge of the principles related to operation of pumps from a hydrant and drafting water	Not done	0	3	3	0	0	1
222	Investigation 1A	• Indicate causes of fires, fire behaviors, and explosions for given fire scene scenario	Not done	3	3	0	0	0	1
223	Investigation 1B	• Analyze, evaluate, and critique past fire investigations in written and oral format	Not done	3	3	0	0	0	1

224	Mgmt 1	• Demonstrate management concepts and practices including decision-making, leader styles, personnel evaluations & counseling techniques.	Not done	3	3	1	0	0	1
225	Prevention 1A	• Apply general fire inspection practices and procedures for correcting fire hazards to given scenarios and handling of fire prevention complaints	Not done	3	3	0	0	0	1
226	Prevention 1B	• *Apply fire prevention principles to features of sprinkler systems, determine operational readiness of a sprinkler system, and critique for sprinkler system capabilities and limitations*	Not done	3	3	0	0	0	1
227	Instructor 1A	• *Present a lesson in fire training and assist in the critique of other presentations by course participants*	Not done	3	3	0	0	0	1
228	Instructor 1B	• Develop behavioral objectives, lesson plans, measurements for learning outcomes, and exams for a fire training course participants.	Not done	3	3	0	0	0	1
229	Command 1A	• Demonstrate pre-fire planning, command and control techniques of the first responding commander when presented with a variety of simulations	Not done	3	3	0	0	0	1
230	Command 1B	• Demonstrate evacuation, containment, and staging for a variety of simulated hazardous materials incidents	Not done	3	3	0	0	0	1
231	ICS 300	• Organize and provide a briefing to incident personnel and develop an Incident Action Plan for a simulated incident	Not done	3	3	0	0	0	1
232	Public Educ. 1	• New course – not offered yet	Not done						0
233	Command 1C	• not submitted yet	Not done						0
234	Prevention 1C	• New course – not offered yet	Not done						0
235	Instructor 2A	• New course – not offered yet	Not done						0

b) Program SLOs, Cycle Assessment, and Strength in Alignment with ISLOs support the Institutional SLOs:

There were no Program SLOs completed in the 08-09 school year for the degree/certificate in Fire Technology. The Advisory Committee will review a draft of Program SLOs, adapted from the CFTDA, in fall 2009. One major focus of fire programs and their SLOs is safety of the fire fighter and the community; this will contribute to the ISLOs of personal responsibility and critical thinking.

4. Analyze the data presented visually (graphs, diagrams, etc.) and verbally (text) as appropriate, present any trends, anomalies, and conclusions. Explain the program's success or failure in meeting the objectives presented above in item one. Explain the ways that the program utilized the student learning or service area outcome data presented in item three to improve the program (changes to curriculum, instructional methodology, support services, etc.)

Data Review

a) ***Enrollments:***

Most of the entry-level fire courses (Core Fire Courses) were offered 1-2 times a year with a slow increase seen in enrollments over the past 3 years. Fire 105 and 107 were cross-listed EMT courses, thus the appearance of low enrollments while the actual classrooms held more than 30 in each section. Enrollments in Fire Academy courses were limited to enhance success rates in the intense program and to meet the required standards. Enrolments in the higher-level courses; i.e. fire fighter and fire officer, ranged from 8 to 29 per course depending on the course offered. The higher-level courses were impacted by scheduling conflicts with fire departments schedules and by local fire departments offering similar courses at their station.

b) ***Sections:***

Throughout the Fire Science Programs, only singular sections were offered and the frequency of the course offerings differed at the entry, academy, and higher-level courses. Most of the entry-level courses were offered in either fall or spring with one exception; FIRE 100 was offered twice a year. Higher-level courses held to a frequency pattern that would require a student2-3 years to complete the major.

c) ***Fill Rate:***

The fill rates for the fire courses ranged from 40% to 145%. The entry and higher-level courses saw the widest range while the mid-level fire-fighter courses averaged more than 80% in fill rates. Again, rates were impacted by scheduling conflicts with fire departments schedules and by local fire departments offering similar courses at their station.

d) ***Student Success Rate:***

Entry-level courses had the lowest success rates while the more intense Academy courses maintained success rates above 85% and higher-level and fire officer courses had the highest rate of success (98%). Academy students were screened prior to enrollment and higher-level courses were attended by those seeking or in advanced roles in their respective fire departments – self-motivation and commitment factors.

e) ***Student Retention Rate:***

Entry level (Core Courses) had the lowest retention rates, yet averaged over 80%. All Fire Academy attrition was in the first semester; nearly all those who completed the first semester went on to graduation. Higher-level courses had the highest retention – more than 98%, most likely due to the maturity of the attendees and higher commitment level from those seeking or in fire officer roles in the community

f) ***Grade Distribution:***

In the entry-level courses, 58% received an A, B, or C – evenly distributed and 41% received a D, F, or W. This pattern was similar for the EMT courses. In the higher-level courses 90% received an A, B, or C (42% - 33% B) and only 10% in D, F, or W. Because the scheduling pattern limited courses to one section per semester and the frequency limited the course offerings from 1-2 times in a 2-year cycle, further comparisons were not possible.

g) ***Full Time Equivalent Student:***

Due to the State Fire Marshall standards and other industry driven limitations on class size and limited course offerings, the total FTES for the Fire Science Programs were just less than 80.

h) ***Full Time Equivalent Faculty:***

Part-time faculty and content experts taught all Fire courses and maintained state mandated ratios depending on the course content. Regulations required all faculty to have course specific authorization from the State Fire Marshall office, which was monitored by the Fire Coordinator – Chief Nippins and the Division Office.

i) ***FTEs per FTEf:***

The ratio was less than 10.0 in all but four courses offered in the 3-year timeframe. Driving factors for the low numbers were state/organization limitations on class size, limited enrollments due to scheduling conflicts, and limited course offerings.

Success or Failure in Meeting Objectives

a) ***Develop a Training Complex:***
In spring 2009, the annual VATEA Plan was submitted with a request for funding a collaboration with local fire departments to secure a Burn Training Unit that will be housed at the County Fire Department and made available to IVC fire students bringing the Fire Programs into the modern era. Delivery was anticipated for early spring 2010. IVC's 10-year Facilities Plan included a career technology/applied science complex with a section for public safety training. Although this portion of the Facilities Plan was not initiated due to funding deficits, it remains in the Plan and is high on the priority list. A private entity, Wind Zero, was in the planning stages for a private training complex for public safety and driving. However, the plans did not provide for a fire-training tower or wildland simulations and did not progress out of planning phases in this time period. Finally, this objective was tied to another – relocating the Fire Science Programs to a new Applied Science Building.

b) ***Develop and implement a joint Fire Academy with IVC and Imperial County****:*
The Fire Academy began in August 2005 with one section a semester and subsequent years provided one complete cycle annually via one section per semester. Fire Chiefs, Fire Captains, and/or Fire Instructors from fire departments throughout the county were utilized as the classroom instructors for the Academy.

c) ***Implement 6-day class schedule:***
At the request of the instructors and depending on the class content, fire courses were offered on Saturdays.

Utilization of Student Learning Outcome Data

a) ***SLOs – Courses:***
In fall 2008, the IVC Fire Chiefs/Advisory Committee agreed on one SLO for each fire course with the exception of five of the new courses added in 08-09. However, no SLO data was submitted and there were no changes in curriculum or methodology because of SLOs.

b) ***SLOs – Program:***
There were no Program SLOs completed in the 08-09 school year for the degree/certificate in Fire Technology and therefore, no Program SLO data was submitted.

c) ***Additional SLO Information:***
Files with a listing of the SLOs and those pending accompany this report.

B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2009

1. Give a verbal description of the program as it exists at the present time. Include information on current staffing levels, current student enrollments, student learning or service area outcome implementation, number of majors, and/or other data as appropriate.

a) ***Current Staffing Levels:***
The current year, 2009, has been a difficult one to staff due to the death of a Master Instructor, a State Fire Marshall classification, and the retirement of a senior Fire Chief who has been the program coordinator for several years. All instructors are part-time and each one has been approved by the State Fire Marshall to teach their specific course with qualifications often different from those of the College. At times content/professional experts enhance the instruction offered in various fire courses.

b) ***Current Enrollments:***
In fall 2009, on-line courses were offered for the first time for the entry-level (core) courses and although marketing was late, the enrollments are equal to or higher than prior semesters. The Academy has 20 students while the higher-level courses enrollments vary. At least one local fire department offers courses at the station, which may affect the number of students registering for courses at IVC.

c) ***SLO Implementation:***
SLOs were created for all but five of the fire courses, but not three for each course. Additional SLOs were adapted from the CFTDA's recommended SLOs and have been sent to the fire program coordinators for review. Once the Advisory Committee has accepted the additional SLOs, they will be added to the appropriate forms. Program SLOs are also in the planning stages and a draft was sent to the fire program coordinators.

d) ***Number of Majors:***
There is only one Major – Fire Technology and two certificates, Fire Technology and Fire Fighter I. Within the industry, there are other categories critical to advancement in fire science – core course, academy, fire fighter, fire officer, and fire instructor tracks which are offered at IVC.

e) ***On-Line and Hybrid Courses:***
Prior to fall 2009, there were no on-line or hybrid courses offered in the Fire Programs. In fall 2009, a contractual agreement was implemented whereby three instructors taught entry-level (core) courses on-line. The student success and satisfaction results will be reviewed at the end of this semester to determine the direction/expansion of on-line courses.

2. Verbally describe any outside factors that are currently affecting the program. (For example: changes in job market, changing technologies, changes in transfer destinations, etc.)

Locally and statewide, the job market has tightened due to the budget crisis and increased numbers of people applying for fire fighter positions. Still, as with other industries, the number of retires is expected to increase in the next 3-5 years and the shortage will require quick replacement with equivalent training and education . This creates an uncertainty in the need for the courses and the anticipation of the public demand.

In spring 2010, the county will receive and set up a controlled Burn Trailer for training that was made possible through a collaborative with local fire departments and IVC. Prior to a Burn Trailer, the mandated training was completed with the assistance of local fire departments and instructors securing an appropriate site.

3. List any significant issues or problems that the program is immediately facing.

Funding, rather the lack of, is the most significant issue facing the program. While there are funds for instruction, there are limited funds to expand the course offerings, purchase/replace additional equipment necessary to ensure safety and skills of the fire fighters; i.e. turnouts, breathing apparatus, etc. VATEA funds and/or other grants have been used in the past, but these funds may be limited in the future.

Soliciting and retaining instructors, qualified by IVC and State Fire Marshall, for all the fire courses has been more difficult since the death of the one Master Instructor. This coupled with at least one local fire department offering fire courses has limited the number of students that can be captured for as well as the variety of courses that can be offered. The advent of the contractual agreements with the on-line instructors may affect the growth and long-term success of the fire programs. These instructors are able to teach the current on-line entry-level courses and could teach many of the advanced higher-level courses while allowing our local instructors to focus on the middle to beginning higher-level courses. Fill Rates and FTES would increase as the range of courses offerings would be expanded while attracting students inside and outside of the region - ultimately prepare more local instructors. The cost-benefit analysis of this contractual arrangement will be analyzed at the end of the semester.

C. FUTURE: Program Objectives for the Next Three Academic Years: 2009-10, 2010-11, 2011-12

1. Identify the program objectives for the next three academic years, making sure these objectives are consistent with the college's Educational Master Plan goals. Include how accomplishment is to be identified or measured and identify the planned completion dates. If any objectives are anticipated to extend beyond this three-year period, identify how much is to be accomplished by the end of this review period and performance measures.

Objectives	***Metric / Measurement***	***Completed by***
Explore alternatives for increasing enrollments and fill rates	*Implementation of recommended alternatives* *Course enrollments and course fill rates*	*Spring 2011*
Expand distant education and technology opportunities	*Number of distant education courses* *Number of hybrid courses* *Number of faculty trained for distance education*	*Spring 2011*
Improve the documentation of SLO cycle assessments	*Number of completed SLO cycle assessments*	*Spring 2010*
Prepare for survey/accreditation	*Completion of required documents including policies* *Review of all curriculum and course outlines*	*Fall 2011*
Develop a Fire Science Webpage	*Webpage created and on-line*	*Fall 2012*
Improve student success in the core fire courses (entry-level)	*Student Success Rates for the 100-108 courses*	*Fall 2011*
Explore opportunities to expand Fire Officer and Fire Chief course offerings	*Number of courses in Officer and Chief track* *Schedule frequency of Officer and Chief courses*	*Fall 2012*

2. Identify how student learning or service area outcomes will be expanded and fully implemented into the program. Include a progress timeline for implementation and program improvement.

   a) ***SLOs – Courses:***
   By the end of the fall 2009 semester, course SLOs will be adopted for the five courses without SLOs and at least two more SLOs will be added to all courses. Part-time instructors will be instructed in the documentation required for SLO data related to each course taught in spring 2010. At the first Advisory Committee in fall 2010, SLO data will be reviewed and improvement strategies will be discussed. Thereafter the cycle will be repeated in the fall.

   b) ***SLOs – Program:***
   Program SLOs will be completed by spring 2010 for the degree/certificate in Fire Technology. In addition, the instructors and Advisory Committee will determine is there should be the same or additional SLOs for the Fire Fighter I certificate or the Academy. Once SLO and metrics defined, the results will be reviewed annually in the fall with the course SLOs.

3. Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.

   a) ***Resources Needed***

   - *Continued access to Etudes training will allow the development of hybrid courses and will further the on-line course development.*
   - *Access to the IVC Webmaster and time for the Webmaster to assist with the webpage development*
   - *Compensated time for fire coordinators to review, revise, and create documents required for accreditation and to work with individual instructors, Advisory Committee, and VATEA grant committee.*

   b) ***Potential Obstacles***

   The existing facilities are shared with five other programs that require extensive technology, equipment, skills labs, and related supplies, much of which requires climate controlled storage; i.e. less than 100 degrees. Instructors utilizing lab space must move equipment and supplies into the hallways daily, placing the District at risk for fire code citations if appropriate care/time is not taken. Some of the fire equipment has been stored off-campus at local fire departments, but this led to losses due to co-mingling of equipment and supplies.

4. Identify any outside factors that might influence your program during the next three years.

   - ***Budget***

     The most ominous outside factor that would influence the Fire Programs over the next 3 years is the budget – IVC, State, and/or Federal. Many fire courses require additional instructors during skills checks and low instructor-to-student ratios, thus the cost per student may higher than other non-fire programs. At a time of economic instability in locally, in the state and in the nation, the funds for high cost programs may be at risk.

   - ***Regulatory Compliance***

     Each instructor must be approved by the State Fire Marshall for each course the instructor teaches. The availability and willingness of local instructors affect the courses offered and the frequency of offerings. In addition, the programs must meet all new or changing requirements.