

Santa Rosa Junior College

Program Resource Planning Process

Fire Technology 2019

1.1a Mission

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The mission of the Department of Public Safety is to provide an education and training environment which fulfills the diverse needs found within the professions involved in public safety. This environment is designed to promote the opportunity for intellectual, social and occupational growth by providing:

- 1) A comprehensive pre-employment curriculum leading towards an associate degree and/or transfer to a four year institution.
- 2) Basic Academy programs for state and federally mandated certificate programs.
- 3) In service training programs which provide current and professional course offerings to meet the demands of the professions.

The mission of the Fire Technology Program is fourfold:

- 1) To offer an enhanced Firefighter I Academy as an Accredited Regional Training Program (ARTP) through State Fire Training (SFT) including SFT, CALFIRE, International Fire Service Accreditation Congress (IFSAC) and Pro Board Fire Service Professional Qualifications System (Pro-Board) Firefighter I and II certification testing to all local fire agencies.
- 2) To offer SFT Firefighter I & Firefighter II certification testing for the fire community.
- 3). To provide for high quality Certificate and Degree programs that adhere to the Chancellor's Office C-ID descriptors, Fire and Emergency Services Higher Education (FESHE) model as developed and adopted by the National Fire Academy (NFA) and State Fire Training which will enhance opportunities for employment and advancement in the Fire Service.
- 4). To offer California Fire Service Training and Education System (CFSTES) courses to allow "In Service" students to obtain certification for advancement and promotions.

1.1b Mission Alignment

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The Board of Trustees current Mission and Values Statement was adopted into Policy 1.1 on October 8, 2013 established the following:

SRJC passionately cultivates learning through the creative, intellectual, physical, social, emotional, aesthetic and ethical development of our diverse community.

- *We focus on student learning by preparing students for transfer; by providing responsive career and technical education; and by improving students' foundational skills.*
- *We provide a comprehensive range of student development programs and services that support student success and enrich student lives.*
- *We support the economic vitality, social equity and environmental stewardship of our region.*
- *We promote personal and professional growth and cultivate joy at work and in lifelong learning.*
- *We foster critical and reflective civic engagement and thoughtful participation in diverse local and global communities.*
- *We regularly assess, self-reflect, adapt, and continuously improve.*

Some examples that demonstrate the consistency of the Fire Program with this Mission and Values Statement are as follows.

- By providing the opportunity to achieve an Associate's Degree in Fire Technology with a transfer General Ed option, students meet the curriculum requirements necessary to transfer to four year "2 + 2" Fire Program as offered by CSU San Marcos, Humboldt State, Cal State Los Angeles, Brandman University and University of Alaska. In addition, through delivery of a fire academy that meets State Fire Training (SFT), the International Fire Service Accreditation Congress (IFSAC), and Fire Service Professional Qualifications (Pro-Board) requirements, students are provided foundational skills that meet national standards, enhancing employment opportunities throughout the country.
- By providing "In-Service" coursework that focuses on allowing students to obtain certificates necessary to promote in the field, we provide a development path that allows them the opportunity to succeed in their chosen field.
- The ethnicity of our programs has grown to mirror the District with our diversity increased almost 50% over the last few years.
- That over 30% of our graduates being hired within 6 months of graduating from our academies demonstrates the vitality of our program. In 2018, this was reinforced by the Chancellor's Office who awarded our program "Silver Star" recognition for 91% of our students being employed in the profession and 73% earning a "living wage".
- To help meet the District's Sustainability Initiative, we have ceased running our academies off-site avoiding travel (and carbon emissions) and are working with the Sustainability Committee to develop a training area that will reclaim water used during hose evolutions. This included participating in the District's 2018 Sustainability Summit and having this system identified as a priority in the committee's *Green Print* action plan (please also refer to the comments below and in section 2.5b).

- We strongly support continuous learning. As an example, our Admin. Assistant is involved in projects that enhance her knowledge of fire training including working on an index of those resources, policies, agreements and procedures used to implement Firefighter I curriculum and testing throughout the State. The Director also serves on the SFT's Statewide Education Advisory Committee (STEAC) and is Past President of the California Fire Technology Director's Association (CFTDA). He is also involved in a Statewide effort to develop a model curriculum for a Company Officer Associate's Degree which is going through the final steps of the review process with the State's Academic Senate C-ID Review Committee.
- As a CTE program that requires the participation of local fire agencies to be successful, civic involvement is critical to this goal. To that end, the Director serves as the Secretary (and Past President) of the Sonoma County Fire Chief's Association (SCFCA), is also the current Secretary for the Sonoma Fire Training & Operations (TO's) group and is a member of the Sonoma *and* Marin counties California Incident Command Certification System (CICCS) committees. The program also has a standing report item on the agendas of the SCFCA as well as TO's meetings. The Director also regularly conducts presentations on the program to public groups and is a member and past president of the Healdsburg Kiwanis club.
- All offered coursework has been assessed and where noted, self-improvements implemented. We have also initiated our second round of assessments. Through a feedback process we conduct every semester in the fire academy, we are able to conduct a continuous improvement process in that setting that has led to consistently high remarks from our recruits and students. This was also reinforced in our SFT reaccreditation report in 2015.

1.1c Description

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The Fire Technology program is taught by one full-time faculty, 38 adjunct faculty, 8 Recruit Training Officers (RTO's), 49 State Fire Training Certified Skills Evaluators, 64 Professional Experts and over 50 volunteers. These staff are coordinated by a full-time Director and supported by a part-time Administrative Assistant and Fire Academy Coordinator. Assistance with logistical needs are provided by a Professional Expert who works as a Materials Handler on an "as-needed" basis. Courses are offered at Petaluma, Santa Rosa, and the Windsor campuses. The Firefighter I (FFI) academy is offered at the Public Safety Training Center (PSTC) in Windsor.

The Fire Program is divided into three areas; the Fire Certificate/Degree program, the Firefighter I Academies and "In-service" courses for those seeking enhanced skills and training already employed. The certificate and degree programs are centered around 6 "Core" courses which follow the Fire and Emergency Services Higher Education (FESHE) model developed by

the National Fire Academy and adopted by the State Board of Fire Services. These courses are offered mainly at the Petaluma campus but also in Santa Rosa and Windsor. "In-service" courses (which also serve as electives) are offered mostly at the PSTC. The Firefighter I Academies are offered in the extended format (Tuesdays and Thursdays 6PM-10PM and Saturdays and Sundays 8-5) in the fall semester and an "Intensive" academy conducted Monday through Friday, 8-5 in the spring semester over a 12 week period.

To assist students meet the experience component necessary to obtain a FFI Certificate, an Internship program has been established with the Work Experience (WE) Program. Through a cooperative working relationship with WE, Fire Adjunct Instructors who have an interest in supervising interns work as Adjuncts in that program as well. This provides an opportunity for Academy graduates who are not affiliated with a fire agency to be placed in a local fire department and complete the 1 year experience component required to obtain their Firefighter I Certificate. The WE program has also recently been expanded to allow non-FFI academy students with an interest in Fire Prevention to be placed in fire dept. prevention bureaus to learn how to become Fire Inspectors.

The program also works with the Sonoma County Fire Department to deliver a Volunteer Fire Skills Academy and with the California Department of Forestry and Fire Protection (CALFIRE) to deliver a Wildland Firefighter Academy.

For those Fire Technology students who meet specific scholastic and economic criteria, a number of scholarships are available. Those include the Victor Pozzi, the Chief Carl O. Heynen, the Chief Win Smith, the Brian Fletcher, and Women at Ground Zero scholarships. In addition, after the passing of respected Adjunct Instructor in 2016, the Michael Haberski scholarship was established for FFI academy students, with the first being awarded in Fall of 2018.

1.1d Hours of Office Operation and Service by Location

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The Fire Technology Program operates from 0800-2200 hours Monday through Friday and Saturday and Sunday 0800-1700. In-service courses are offered during the weekday and on Friday evenings and weekends. Firefighter I Academies are offered in two formats (M-F 0800-1700 hours and Tues, Thurs, 1800-2200 hours and Saturdays and Sundays from 0800-1700. All Fire Academies also include one 48 hour "shift" conducted during the wildland component of the academy to replicate the work schedule used by fire departments throughout the state.

Semester length "Core" courses are offered both during business hours (0900-1200) and in the evening (1900-2200) to accommodate both full time students and those who work during the day.

Department office/administrative support are available at the PSTC from 0800-1630 hours Monday through Friday. The Director, Administrative Assistant for Fire Technology and Academy Coordinator have their offices at the PSTC. The Program full-time faculty at Petaluma has designated office hours Monday and Tuesdays 6-7 PM and Adjunct Faculty have designated office hours before their assigned classes at Petaluma, Santa Rosa and the PSTC.

1.2 Program/Unit Context and Environmental Scan

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From a Program Context and Environmental Scan perspective, our program spans both the Degree/Certificate and CTE spectrum. For reasons of simplicity, I will speak to each separately.

In our Certificate/Degree side of our programs, we have seen two trends emerge. One involves the development of a partnership with local fire agencies to expand the Work Experience program to allow students who have completed the Fire Prevention (Fire 73) and Protection System (Fire 74) courses to perform internships in their fire prevention bureaus. The second is the continued growth of interest in our on-line degree/Certificate courses. Much of this interest can be attributed to the efforts we have made to offer the six "core" course on-line which I am pleased to report began in the spring 2018 semester.

In contrast to the Certificate/Degree, the CTE part of our program has become more dynamic and transcends all of the categories covered under this section including our labor market, accreditation (with State Fire Training - SFT), as well as anticipated changes in the regulatory, social and business environments.

In the labor market, over the last few years we have seen a steady increase in the demand for firefighters which can be attributed to several factors. First, as drought and climate change has become more pronounced, fire seasons have increased by an average of 84 days longer than they were 40 years ago, contributing to the terrible conflagrations that have devastated Sonoma, Butte and many other Counties. as a result, CALFIRE has increased their staffing and hiring of seasonal firefighters which includes 30 to 40% of our Fire Academy graduates.

Another impact to the labor market has been an increase in fire service retirements that has resulted in a significant increase in hiring (for example, over the next two years, San Francisco Fire alone will be hiring 300 Firefighters). This has created a corresponding increase in promotional opportunities and since most agencies require candidates to possess applicable SFT certifications to be eligible for promotional tests (i.e. Company Officer Certification for Fire Captain), the demand for these classes has increased. It is for these reasons that we have scheduled most of the courses required for the SFT Company Officer certification to be available to students within a single calendar year. However, with a recent mandate to reduce course offerings to address the District's structural deficit, our ability to continue this practice has been jeopardized and may result in our student's becoming disenfranchised and seeking these courses elsewhere. This has the potential to create a "snowball" effect and if history is

any indicator, will lead to a loss of enrollment for other courses and have a very adverse effect on the program.

Although not directly related to the labor market, another trend we have begun to experience is the growth in interest of Fire 107.1 and 107.2 (our Volunteer Fire Skills academy). This can be attributed to two factors. First, as most small departments continue to be fiscally challenged, they are finding it increasingly difficult to train their staff and are using the program as a cost effective alternative. The second is due to a surge of interest in the general public to become a firefighter following the devastating fires of October 2017. To accommodate these individuals and at the request of our Fire Advisory committee, we have made the curriculum more flexible allowing students to complete them in whatever order best suits their schedule. The program has been so well received that it is now used as the recruit training academy for the fire agencies in Sonoma Valley (Sonoma Valley Fire Rescue, Kenwood and Glen Ellen Fire Districts) as well as Two Rock Coast Guard Fire Dept., Geyserville.

Directly related to this trend and one of the outcomes of the October 2017 fires is the potential for an enormous increase in the demand this academy as well as the fire program as a whole. This is based on the actions of the Sonoma County Board of Supervisors (BOS) on January 29, 2019 to approve placing of a half-cent sales tax measure on the November 2019 ballot to fund enhanced fire protection services in the county. ***If approved by the voters, the BOS estimates up to 177 firefighter positions would be funded creating a huge demand for training that would place enormous demands on all aspects of the fire program (Volunteer Fire Skills and Firefighter I academies as well as our SFT "in-Service" courses). Without the support of the District to expand our facilities and increase staffing, our ability to meet these needs will be jeopardized, leading to an enormous shortage of firefighters who meet the minimum qualifications (MQ's) necessary to perform the job.***

From a licensing/accreditation perspective, we are beginning to experience a trend where as an Accredited Regional Training Program (ARTP) through SFT, we are finding ourselves being subject to more scrutiny. This is not a reflection on our program, but rather on the accreditation SFT themselves have recently obtained from the International Fire Service Accreditation Congress (IFSAC) and the Pro Board Professional Qualification System (Pro Board). While in the past, SFT would usually only visit an agency every six years when their reaccreditation was due, under the terms of their agreements with IFSAC and Pro Board, they are required to conduct annual audits of ARTP's and whereas we were one of the first institutions to implement the new curriculum, we were also one of the first to be audited which occurred in December 2017. They have also contacted us to communicate their intent to conduct another site visit in spring of 2019.

On a more global level, the biggest trend (and threat) we face is climate change and the increased frequency of drought. In order to deliver our program, a variety of hose evolutions and pumping operations must be conducted which use enormous quantities of water (between 250,000 and 750,000 gallons a semester) depending upon the size and frequency of classes. Not only does this use have an associated monetary cost, but it is contrary to the mission of the College to support environmental stewardship and our goal of *Establishing a Strong Culture of Sustainability*. The biggest concern lies in the fact that as the drought persists, it will only be a matter of time before we will have to curtail our water use which will make it impossible to meet the curriculum requirements of the Fire Academy (and other related courses) and subsequently the terms of our SFT accreditation. Under a worst case scenario, this would result in the revocation of our accreditation and the end of our program. A solution to this problem would be to fund the construction of a hose evolution area which reclaims any water

use (not unlike the greywater system proposed for the Santa Rosa campus). Such systems have also been installed at a number of Colleges around the State and have even amortized themselves creating financial benefits. Combined with the increase of firefighters that would accompany the approval of half cent tax measure, it will be essential to the long term viability of our program to find additional property on which to expand our program. More will be addressed on this topic in section 2.5b.

2.1a Budget Needs

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The budget of the Fire Technology program is broken down into the three Categories; the 2000, 4000 and 5000. For the purposes of this section, only the 4000 and 5000 categories will be discussed here.

Budget Category 4000

The 4000 accounts covers the costs of instructional supplies and is broken down into the following accounts: 4110-textbooks, 4111-textbooks (fee based), 4390-other supplies, 4391 instructional supplies (fee based), 4510-graphic arts, 4511-graphic arts (fee based).

Of the 4000 accounts the one most central to the operation of the academy is the 4390. Uses for this account include propane to operate our car fire and exterior gas cylinder prop and wood products used for the ventilation, forcible entry units as well as the live fire exercise. Examples of these materials include (partial list) oriented strand board (OSB) for ventilation, safety/survival and live fire, smoke fluid for the safety/survival and haz-mat units, propane for vehicle fires, fire extinguishers and exterior fires, sheetrock for safety/survival and live fire as well as vehicles for vehicle extrication. In 2016 we experienced an increase in these costs as we transitioned to the new props and materials required by the 2013 Firefighter I (FFI) curriculum. Now that we have the experience of running over half a dozen academies, we have found it to roughly double the quantity of materials. To that end, we would ask \$17,800 be budgeted for 2019-20 FY.

Budget Category 5000

The 5000 category covers the costs of guest lectures, consultants, equipment maintenance, leases and rentals and is broken into the following accounts: 5110-lecturers/speakers/etc., 5190-other consultant services, 5191-consultant services (fee based), 5630-equipment rental/leases, 5640-facilities rental/leases and 5659-other equipment repair. In this category, the accounts that are central to the operation of the academy are the 5190 and the 5659

The 5190 account addresses costs associated with services including contracts, permits and consultants. Historically \$4,650 was budgeted but several years ago it became apparent this was insufficient primarily because of the contract costs with the County of Sonoma for the two Volunteer Fire Skills classes (107.1 & 107.2 for \$3491 & \$6381 respectively for a total of \$9,872) and \$9,258.81 for the two CALFIRE Wildland units delivered in the FFI Academy (which includes two Fire 206 courses run concurrently in the academies) for a total of \$19,130. To address increases in these costs it is recommended another \$2000 be included for a total 2019-20 request of \$22,537. It should be noted

that in an era when the costs of all programs are being scrutinized, both contracts represent an exceptional bargain for the District in that they are equal to the costs of one Adjunct Instructor being paid at the lab rate for the number of hours the course runs. Given both are lab heavy in nature and require at least two Professional Experts to assist with skills instruction and maintain student/instructor ratios, the savings to the District can be as much as \$80 an hour.

The 5659 covers the costs associated with maintenance of our equipment. Examples of these (partial list) includes; our air compressor (including the OSHA mandated quarterly air tests), testing and maintenance of our ground ladders, repairs to our power tools, hydrostatic testing of our SCBA bottles as required by the DOT and air pollution permits. As with the 4390 account, expenditures increased as we implemented the new FFI curriculum which doubled the skill hours, subsequently increasing wear on our equipment and ultimately repair costs. While \$6,600 previously was sufficient to fund this category, since our budget has consistently exceeded this by over 100%, I would request \$13,200 for 2019/20.

As a fee based service, for the 5191 account, the only identifiable cost is for the "Fit Tests" provided for our students by the County. While funding for this account is generated exclusively from student fees, we continuously search for the least cost alternatives to ensure the student the most "bang for their buck".

From a savings perspective, we continue to benefit in the 5640 category by avoiding the cost of having to lease the Santa Rosa Fire Department training facility for the FFI Academies which was ceased in 2013. Thanks to the improvements made at the PSTC, we are in our sixth year of operating here which has resulted in a cumulative savings of over \$150,000.

It should be noted that the program continues to aggressively seek donations and grants to offset the extensive equipment needs of the Fire I Academies and we have a long history of obtaining equipment for no cost. For example, over the last two years we have received a fire engine from Central Marin Fire District, a second from Kentfield Fire District, a number of ladders from Rincon valley Fire District and a number of SCBA's from Occidental Fire District. Had we been required to purchase these items independently, the costs would be in excess of \$90,000. The Program Director was also able to negotiate the repairs of over two dozen SCBA's at no cost to the District by physically driving them to the repair facility in Utah illustrating that it often requires "out of the box" solutions to keep the program running.

I would end by speaking to the new FFI & II certification testing process and its financial implications for the program. We have been extremely fortunate to be the recipient of several CETA grants that have moved us much closer to a position to have those props necessary to operate the academy and meet the new curriculum. This included a \$182,000 grant for a Draeger live fire prop and \$38,000 for a series of forcible entry props and tools that will allow us to conduct the skills testing necessary for the FFII certification test.

2.1b Budget Requests

Rank	Location	SP	M	Amount	Brief Rationale
0001	Windsor	07	07	\$71,192.00	Professional Experts/Instructional Assistants, Fire Academy Coordinator, Materials Handlers
0001	Windsor	07	07	\$84,935.00	Textbooks and other instructional supplies.

0001	Windsor	07	07	\$17,800.00	4390 Account: Supplies to operate academies including: propane, burn & ventilation materials, sheetrock, smoke fluid, fire exting. agent, etc
0001	Windsor	07	07	\$13,200.00	5659 Account: Services including: fire exting service/hydro, compressor maint, Ladder testing & repairs, air permit, etc.
0001	Windsor	07	07	\$22,537.00	5190 Account to include: contracts with County & Calfire
0001	Windsor	07	07	\$3,000.00	5191 Account to include: Fit tests costs with County (fee based)

2.2a Current Classified Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Administrative Assistant III	16.00	12.00	Provides detailed administrative and clerical support for Director/Chair. Manages complex projects as assigned such as handling all the registration & logistical needs for the fire academy, processing all proofs, handling all administrative matters with State Fire Training (our accrediting entity), serving as secretary to our Advisory committee (patial list). This list does not reflect her payroll activities which account for 60% of duties.

2.2b Current Management/Confidential Positions

Position	Hr/Wk	Mo/Yr	Job Duties
Associate Dean of Fire Technology	40.00	12.00	Under the direction of the Dean of the Public Safety Training Center, is responsible for coordinating the Certificate/Degree course work at the Petaluma and Santa Rosa campuses and entry level/in-service programs at the PSTC Windsor. Additionally, the Director manages and oversees the fire academies and is responsible for curriculum development and continued currency of courses in the Fire Technology program.

2.2c Current STNC/Student Worker Positions

Position	Hr/Wk	Mo/Yr	Job Duties
70 Evaluators (Professional Experts)	45.90	12.00	Responsible for reviewing, supervising, evaluating and documentation of discipline specific subject matter and related skills during testing under the supervision of Lead Evaluator.
7 Fire Recruit Training Officers	7.00	10.00	Counsels recruits regarding professional matters; supervises and monitors recruit discipline; supervises other Professional Experts as needed.
1 RTO (Fire Academy Coordinator)	18.00	9.00	Provide the scheduling, oversight, discipline and physical resources necessary to operate the Fire Academy.
1 P/T Materials Handler (Prof. Expert)	20.00	12.00	Maintain academy equipment, exercise apparatus and power tools. refill air bottles. deliver instructional supplies, build/re-build instructional props, repair hose and SCBA's, and other equipment

2.2d Adequacy and Effectiveness of Staffing

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Currently, the Fire Technology Program consists of an Associate Dean of Fire Technology, a Part Time Administrative Assistant (.40FTE), a Full-time Instructor, a STNC who serves as the Fire Academy Coordinator, 40 Adjunct Faculty, 6 Recruit Training Officers and approximately 70 Professional Experts (1 of whom also serves as a Materials Handler). With this staffing, we operate 2 Fire Academies annually, a separate FFI Academy Skills Test course and on the average, 22 other course sections each semester.

The key to staffing for our program (specifically the Firefighter I Academy) lies in our flexibility to use STNC's/PE's (Professional Experts). This is essential as their need varies throughout the semester depending upon the topic being delivered. For example, some (such as Cause and Origin, Strategy & Tactics, ICS, PTSD, etc.) require one lecturer, while others (such as ladders, hose, Safety & Survival and certification testing) require multiple PE's. While we have a dedicated staff of PE's who assist with these activities, because most are working firefighters on shift, their consistency varies greatly which creates a challenge maintaining the continuity of instruction. Under ideal circumstances, these would best be delivered through the use of permanent P/T Lab Assistants to provide dedicated pool of staff.

Another position that should also be (at a minimum) a P/T Lab Assistant, is the Fire Academy Coordinator which is warranted given this person is responsible for the coordination, scheduling and delivery of the entire FFI Academy. While this would result in higher labor costs, it would provide the continuity that is critical in an intensive instructional setting such as the fire academy. Currently, we are extremely fortunate to have a very capable individual in this position. However once they retire, it will be extremely difficult to recruit for a replacement given the existing level of compensation (the PE rate of \$20 an hour). To that end, for the long term success of the academy, the District should be prepared to approve at least two 50% Lab Assistant positions when this occurs. It is worth noting that because the most qualified personnel for these positions are usually retired from the fire service through PERS and all District Lab Assistants are classified as PERS employees, those who have expressed interest in such a position in the past have declined once they learned they would have to re-instate with PERS, resulting in a significant loss of income. Therefore, it would be in the District's best interest to classify it as non-PERS.

In the meantime, the District will continue to experience the delivery of an academy that is extremely cost effective which should be beneficial during these austere fiscal times.

2.2e Classified, STNC, Management Staffing Requests

Rank	Location	SP	M	Current Title	Proposed Title	Type
0000	ALL	00	00	N/A		Unknown

2.3a Current Contract Faculty Positions

Position	Description
FT Fire Tech	Contract Faculty - The program has one budgeted, full-time faculty member who has just achieved tenure. However, at her request, her load has been reduced to 80% for the next two years.

2.3b Full-Time and Part-Time Ratios

Discipline	FTEF Reg	% Reg Load	FTEF Adj	% Adj Load	Description
Fire Technology	1.0000	100.0000	3.1300	313.0000	F

2.3c Faculty Within Retirement Range

2.3c Faculty within Retirement Range

At this time, only the Associate Dean of Fire Technology is the only person in the program within retirement age.

2.3d Analysis of Faculty Staffing Needs and Rationale to Support Requests

2.3d Analysis of Faculty Staffing Needs

While there are an abundance of fire personnel in the county, it is becoming increasingly difficult to recruit qualified personnel for the program. This is a result of the new requirements being implemented by State Fire Training (SFT) for those staff who work in the Firefighter I Academies to be SFT trained *Skills Evaluators*. At a minimum, all *existing* staff need to complete four specialized SFT courses to meet this requirement. This makes it not only more difficult to keep existing personnel, but hire new ones. To address this challenge the program conducted special offerings of each of these courses for program staff over the last two years and will do so again in 2019-20.

The program interviews annually to maintain our adjunct faculty pool and did so most recently in Fall of 2018. In this regard, it should be noted that our greatest challenge continues to remain attracting qualified on-line instructors. With this segment of instruction representing the largest areas of growth, despite a concerted effort to hire on-line instructors, once they learn of the effort required to develop a class and the low level of compensation, many decline employment. However, I am pleased to report that due to our efforts to convince existing instructors to learn CANVAS, effective Fall 2018, all of the core courses required for a Fire Tech degree/Certificate became available on-line.

While we usually can provide an adequate pool of Adjuncts and Professional Experts, a growing challenge we face is the availability of staff during fire season. As drought conditions persist and fire season extends into late November and early December, the availability of instructors as well "In Service" students tends to diminish in the fall. This situation was particularly acute last November when a considerable number of our staff were committed to the Camp Fire in Butte County (the same situation occurred in October 2017 with staff committed to the Tubbs and Nun's fires here in Sonoma County). What saved us from canceling the academy was the comprehensive campus closure that occurred due to the smoke and unhealthy air conditions and have created a few "open" days in the academy schedule which allowed us to make up the hours mandated by SFT to meet the course curriculum. The same dilemma applied to the rest of our course offerings. For example, after having to cancel several fall "In-Service" classes in 2016 and 2017 due to the long fire season, we purposely scaled back our fall "In-Service" offerings in 2018. If this pattern persists, it may also become problematic to operate the fire academy in the fall which would be a "game changer" for the program and the way we operate.

2.3e Faculty Staffing Requests

Rank	Location	SP	M	Discipline	SLO Assessment Rationale
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2.4b Rationale for Instructional and Non-Instructional Equipment, Technology, and Software

2.4b Rational for Instructional Equipment

The majority of the instructional equipment used in the program is dedicated for use in the Firefighter I (FFI) academy. Since the adoption of IFSAC/Pro-Board/State Fire Training (SFT) certification testing process, the use of our instructional equipment has greatly intensified resulting in a shorter service life and the need to replace equipment more frequently. In addition, as an Accredited Regional Training Program (ARTP), we are required to deliver testing for the other certification paths offered through SFT. This includes Firefighter II (FFII) which we will be required to offer next year and uses the same equipment, furthering shortening its service life. With a new two week Truck Academy class (Fire 284) being offered for the first time in May of 2019, additional equipment will be required. This includes saws and specialized cutting blades. A list of that equipment necessary to continue the delivery of the FFI academy as well as the Truck Academy is listed below.

1. Ventilation Panels: As part of the Firefighter I & II training/testing and the Truck Academy, we are required to deliver over 16 hours of ventilation training and 20 hours of structural operations which includes skill demonstrations where students must physically cut holes in roof assemblies to demonstrate ventilation activities. This involves sawing through Oriented Strand Board (OSB) roof panels which uses enormous quantities of the product and takes considerable time to replace. In an effort to minimize our materials costs and maximize our instructional time, we propose incorporating a prefabricated vent panel that uses 3" strips of wood installed around its perimeter that serve as the material to be cut. This not only saves an entire sheet of OSB for each cut, but greatly speeds instruction by eliminating the need to remove and re-nail the entire sheet. Additional benefits are the cost savings by greatly reducing the amount of OSB that has to be purchased as well as helping to meet the goal of the District's Sustainability initiative of greatly reducing our waste stream.

2. Wildland Fire PPE and Web gear: As a component of our wildland fire training, it is essential to possess an adequate quantity of personal protective equipment (PPE) and web gear for each of our students. This is critical as the donning and doffing of their PPE and deploying a fire shelter from their web gear are required skills they must train and test to and wear throughout the entire wildland unit. Because of wear and tear to our PPE and the need to retire most of our web gear as they were not sized to accommodate the new OSHA fire shelter (purchased under a previous grant), the definitive need exists, leading to this request. The fact that the largest loss of firefighter's lives (19) since 9/11 occurred in a 2012 wildfire in Arizona attests to the importance of having current safety equipment to train on.

3. Misc. Tools and Equipment: There are a variety of tools that are required for the delivery of the Fire Academy that we either currently do not possess or were donated with many years of previous use and have fallen into disrepair. These include:

- A Heavy Duty Smoke Machine: Necessary to meet the equipment needs for the FFII course plan
- A Set of Air Chisels and Appliances: Necessary to meet all the curriculum requirements of the SFT Auto Extrication course curriculum
- Portable Hydrant and appliances
- 2 chain saws
- Carbide & diamond cutting blades
- 2 Roof Hooks

4. Rope and Misc. Rescue Equipment : As part of our Firefighter I & II training and testing activities, rope and the associated equipment such as harnesses, webbing and rope bags are essential to the delivery of the following units in the fire academy; Ropes and Knots, Hoisting Tools, Firefighter Safety and Survival and Rescue of a firefighter/victim from a structure. In addition, because the equipment will also allow us to incorporate State Fire Training's Low Angle Rope Rescue class, it would represent an enhancement to the academy which is important as our Advisory committee has asked us to include this class in our academy. It is also important for safety reasons due to the inordinate amount of wear our rope and other rescue equipment receive which shortens their life span. This is particularly critical for rope that is used as "life lines" or to suspend students. To that end, we make frequent inspections of our equipment and replace as warranted on a regular basis. Among the items being requested include: rope search bags, harnesses, webbing, ladder lines, load release hitch cords and rope "life lines".

At our Advisory meeting scheduled for May 3, 2019 a list of these items will be presented to the committee to approve in support of their purchase through the use of grant funds.

While these items represent a significant investment in our program, it should be added that historically, we have been very fortunate in obtaining equipment donations that have enhanced our program and greatly supplemented our equipment costs. For example, in the last year alone, we received a donated fire engine from Central Marin Fire District, another from Kentfield Fire District and are scheduled to receive a ladder truck from Fortuna Fire Department in March. We have also received over a 100 fire extinguishers (for fire extinguisher training) from Santa Rosa Fire Equipment which has saved the program several thousand dollars in re-filling costs.

2.4c Instructional Equipment Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0000	Windsor	01	07	Air Hammer-Chisels & Appliance Kit	1	\$908.00	\$908.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Vent Prop Panels	4	\$2,400.00	\$9,600.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Wildland PPE Ensemble	40	\$304.00	\$12,160.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Wildland webgear	40	\$275.00	\$11,000.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Smoke Machine	1	\$3,080.00	\$3,080.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Carbide 14" CBT Cutting Blades	5	\$130.00	\$650.00	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Portable Fire Hydrant Kit	1	\$5,255.54	\$5,255.54	R.Collins	PSTC	R.Collins
0000	Windsor	01	07	Group Rope Search Kits	4	\$737.00	\$2,948.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Rope Rescue Webbing	4	\$575.00	\$2,300.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Rescue Harnesses	9	\$449.80	\$4,048.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Load Release Hitch Cords	2	\$197.50	\$395.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Life Line Rope	5	\$490.00	\$2,451.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Diamond Cutting Blades	3	\$250.00	\$750.00	R.Collins	PSTC	R.Collins
0001	Windsor	01	07	Roof Hooks	2	\$150.00	\$250.00	R.Collins	PSTC	R.Collins
0003	Windsor	01	07	Chain Saws	2	\$1,060.00	\$2,120.00	R.Collins	PSTC	R.Collins

2.4d Non-Instructional Equipment and Technology Requests

Rank	Location	SP	M	Item Description	Qty	Cost Each	Total Cost	Requestor	Room/Space	Contact
0001	Windsor	04	07	Carport	1	\$7,431.36	\$7,431.36	R. Collins	PSTC	R. Collins

2.5a Minor Facilities Requests

Rank	Location	SP	M	Time Frame	Building	Room Number	Est. Cost	Description
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2.5b Analysis of Existing Facilities

2.5b Analysis of Existing Facilities

The Fire program conducts all of its manipulative training at the Public Safety Training Center (PSTC) which it shares with a number of other safety programs including; the Basic Police Academy, Ranger Academy, Corrections Academy, EMT and Paramedic programs, Dispatch Academies and a variety of other "In-Service" programs. By the District's own admission, has created a saturated facility that has very little capacity to expand.

Compounding this situation are the widespread changes that have occurred to the fire training system that over the course of the last six years. At the State level, the entire fire training system as administered by State Fire Training (SFT) has evolved to align itself to be consistent with national (NFPA) standards. At the local level, our Advisory Committee and local fire agencies have identified specific training courses for volunteer firefighters, truck operations as well as certification testing for outside Firefighter I and Firefighter II candidates. Over the last few years, this has resulted in changes to 70% of our curriculum, the addition of new courses and an on-going analysis to ensure we have the facilities to deliver the manipulative training in these courses. A partial list includes; Intro to Fire Academy (Fire 208), Firefighter I Academy (Fire 208.1), Wildland Fire Academy (Fire 206), Volunteer Fire Skills Academy (Fire 107.1 & 2), Truck Academy (Fire 284), Firefighter I Test Class (Fire 208.4) and Firefighter II test Class (Fire 208.5). While we have been very successful in obtaining grants to purchase the props and equipment necessary to implement these classes, there are two long term problems that have emerged.

The first is the limited capacity of the PSTC to deliver the classes necessary to meet the needs of our local fire agencies which has been compounded by the devastating fires of October 2017 and the new paradigm of climate change. The result has been a demand for more pre-service training (Firefighter I & Volunteer Academies) and "In-Service" courses for employed fire personnel seeking specialized training. Further complicating this situation is the program's status as the only SFT Accredited Regional Training Program (ARTP) in the coastal region between San Francisco and the Oregon border. As an ARTP, we are required to deliver the certification testing necessary to obtain SFT as well as International Fire Service Accreditation Congress (IFSAC) and Fire Service Professional Qualifications System (Pro-Board) Firefighter I (FFI) and II (FFII) certification for both our academy students and candidates from local fire agencies. As the baseline for entry level employment with most fire agencies in California (including CALFIRE), this creates enormous competition for available seats in our FFI academy. While we have contemplated adding additional academies to meet this need, the lack of facilities makes this problematic. It is worth mention that at one time, we did deliver an additional academy but when the alignment process described above resulted in an increase in academy hours, facility conflicts with the other programs became so severe, it had to be cancelled. We have explored the possibility of conducting training off-site, however because the props necessary for the training are stationary, this is not a viable option.

The second is the enormous quantities of water that are used for firefighter training and the unsustainable nature of this practice given climate change and the long term drought trend California is facing. Based on meter readings provided by the Town of Windsor, the average use of water for fire training ranges between 300,000 and 500,000 gallons for each Fire Academy. Given the additional testing we will soon be required to deliver, this figure is expected to rise. If the State once again requires water purveyors to implement conservation measures, it is only a matter of time before we are told to reduce or eliminate our use. This would prevent us from meeting SFT curriculum requirements and jeopardizing our accreditation as an ARTP.

A solution to this dilemma is to purchase the property contiguous to the PSTC to construct a fire training area that reclaims water in a tank system which is re-used through a closed hydrant system. An area this size would allow us to conduct all of the hose evolutions required under our curriculum, build additional classroom space and re-locate our training props which would eliminate the facility conflicts we are experiencing with the other programs. It would also isolate

our burn props from the rest of the campus, eliminating unhealthy smoke conditions for our students and staff that arise when we conduct live fire training. Similar systems have been constructed and used successfully at other community college fire programs throughout the State.

Another advantage is it would also help us meet the District's Sustainability Initiative of working to forward projects that minimize our impact on the environment. Given the amount the District pays for water and the proposal to address the District's structural deficit through the installation of greywater systems on the Santa Rosa and Petaluma Campuses, it only make sense to implement a similar reclamation system for fire training at the PSTC for its cost savings alone. Given the District spends between \$700 and \$1000 each month for the PSTC Fire Line/hydrant water bill (the fire Line, domestic and irrigation/recycled waters are billed separately), the project will ultimately amortize itself and save money over the long term. The merits of this were apparent enough, that at the District's 2018 Sustainability Summit, the Sustainability Committee made this proposal a priority in its *Green Print* Planning document. This topic is also addressed in section 3.5's *establish a Culture of Sustainability*.

Unfortunately, when the District was approached by the Program Director to use Measure H funds to purchase this property, because of its budget deficit and citing not being in an "expansionary mode", it declined the offer. This is a decision which will limit the capacity of the program to produce trained firefighters and severely hamper our ability to meet the future needs of our fire community. To that end, it is clearly in the Fire program and District's best interests to examine alternate funding sources to obtain the property and implement the proposed improvements.

3.1 Develop Financial Resources

3.1 Develop Financial Resources

It has been a continuing goal within the Fire program to pursue a variety of resources (both funds and equipment) that are consistent with district goals. This has included some of the following practices:

- Evaluating the number of Professional Experts needed to safely assist with delivery of manipulative skills for the fire academy.
- Using Professional Experts to handle our materials/maintenance needs rather than use a F/T or P/T permanent positions (also discussed in section 2.2d).
- Continuing to implementing facility improvements at the PSTC to operate the academy on-site, eliminating the cost of leasing the Santa Rosa Fire Training Tower (resulting in over \$150K in savings over the last 6 years) which has also lowered labor costs by consolidating our operations at one site.
- Aggressively pursuing grant opportunities to obtain the instructional equipment necessary to deliver instruction. This includes over \$600,000 in CETA grants, \$200,000 in Strong Workforce and \$70,000 in IELM funds over the last six years.

- Entering into ISAs that share instructor resources and reduce the cost of instruction to the District
- Allow fire agencies to use our facilities in return for assisting with instruction, providing resources on equipment dependent scenario days, minimizing labor costs and avoiding having to pursue PO's with equipment rental companies.
- Continuing to actively pursue donated equipment. In the last year alone, we have received two donated fire engines and a ladder truck worth in excess of \$50,000.

While donations remain the largest source of our equipment, we will continue to seek Perkins (CETA) to purchase equipment that improves our program and cannot be obtained through donations. We will also continue to pursue other potential opportunities such as the *Institutional Education and Library Materials (IELM)* and *Strong Workforce* grants.

3.2 Serve our Diverse Communities

3.2 Serving our Diverse Communities

The program continuously is evaluating methods to better serve or diverse communities. One of the more inclusive ways to accomplish this is by having faculty that reflects this. To that end, I feel we have had some success.

For example, in 2015 we completed a recruitment for our one F/T faculty. In an effort to be sensitive to the diverse needs of our students, one of the five criteria established in our application selection rubric is diversity. The outcome was the recruitment and hiring of the program's first full time female instructor.

Among the best practices used to attract candidates for this position included advertising our Job Announcement (JA) on the following websites:

- AsiansinHigherEd.com
- BlacksinHigherEd.com
- HispanicsinHigherEd.com
- LGBTinHigherEd.com, and
- California Community Colleges Faculty and Staff Diversity Registry

The program has also been very successful recruiting female Adjunct instructors which now comprise 20% of our adjunct staff (as compared to representing only 3% of F/T firefighters in Sonoma County).

The overall break down of the background of our staff is as follows:

We presently (Spring 2019) have 38 Fire Technology Instructors employed:

1 FT Instructor – (Female)

30 Male Adjunct Instructors – 25 White, 3 Latinos, 1 Asian, 1 Pacific Islander

Female Adjunct Instructors - 8 White

The ages of our Adjuncts faculty ages range from the 20's to the early 50's. It is also worth noting that we are working with our F/T faculty member to conduct outreach to female students in the local school districts. This included the establishment of a Fire/EMS Club she initiated in 2018 of who all the Officers are female.

As a CTE Program, we are constantly evaluating it to ensure it remains relevant to the region. For example, in the wake of the devastating fires last October, enrollment in our Volunteer Fire Skills courses (Fire 107.1 & 107.2) grew as local fire agencies experienced a spike in those desiring to become Volunteer Firefighters. To promote open enrollment, in 2018 we eliminated requiring 107A as a prerequisite to 107B since it discouraged many from enrolling in the 107B course, re-numbered the courses to 107.1 & 107.2 to remove this obstacle.

3.3 Cultivate a Healthy Organization

3.3 Cultivate a Healthy Organization

One of the most effective ways to develop an environment based on collegiality is to create a fun working environment. Some ways this has been accomplished is by the following:

- Periodically circulating a "Song of the Day" to generate a little humor and challenge staff's knowledge of trivia.
- Hosting picnics and holiday parties for all staff

As for bringing new staff into the program, recruiting and hiring of the best candidates has always been a high priority goal. With the vast majority of instruction being delivered by Adjuncts, most of our hires come from local fire agencies whom are well known to us prior to participating in the hiring process. In fact, because of the intimate nature of the local fire service, many of our adjuncts are directly recruited by the Program Director because of their subject matter expertise in a given area. This is very beneficial as it allows us to hire candidates who are recognized experts in their respective fields which helps maintain quality instruction. This has been reflected by our evaluations which are overwhelmingly positive.

Student Health and Wellness is promoted through four of our courses. In Fire 71 where students are introduced to the Fire Service in which health and wellness is part of the curriculum. In Fire 208, 12 hours are spent on physical training and the importance of remaining healthy to sustain a firefighting career. This is followed by the Fire Academy where 28 hours of physical training occurs including a PT midterm and final which must be passed in order to graduate. To obtain a degree or certificate, students must complete Fire 78 (Fire and Emergency Services Safety and Survival) which includes a component on Health and Wellness . In addition, Fire 78 (Principles of Fire and Emergency Services Safety and Survival) which is one of the core courses required for a Fire Technology Certificate or Degree devotes 15 hours of its curriculum to fire health and wellness.

3.4 Safety and Emergency Preparedness

3.4 Safety and Emergency Preparedness

A number of activities have been occurring with the fire program in this regard over the last few years.

In response to a weakness we identified with the *Heat Illness Plan* provision of the IIPP, in conjunction with Fac/Ops, we recently has a shade structure erected (T-8, 3395 (d)1). In 2016, through the generosity of Facilities, we obtained an ice machine that has greatly promoted cooling and hydration of PSTC students and also benefited our *Heat Illness Plan*.

In our efforts to increase safety planning and overall emergency preparedness, over the past year, we have also accomplished the following:

- Conducted fire extinguisher training
- Participated in the District's "Great Shakeout" exercise in Fall 2018
- Completed the District's Forklift Training Course
- Completed FEMA's IS-100HE On-line Course
- Completed FEMA's LO-363 Multi-Hazard Emergency Planning for Higher Education course
- Directed new staff to the FEMA website to take the I-100 & I-700 courses

Once all staff have taken the FEMA training, a Standardized Emergency Management System (SEMS) course will be conducted to satisfy all Federal and State emergency preparedness training requirements.

The Building coordinators for the PSTC are Tim Bell as primary and Randy Collins as alternate. This includes all buildings 100-900 at the PSTC.

3.5 Establish a Culture of Sustainability

3.5 Sustainable Practices

The Fire Program has prided itself on maintaining a strong commitment to sustainability practices for some time. As an example, since August 2010, the following sustainable practices have been implemented:

- All print materials surplus in the program are recycled when possible. Assignments, handouts, tests and other documents have been reformatted and printed two sided to use less paper.
- Beginning in Spring of 2014, all of the student materials for our "In-Service" State Fire Training Classes (SFT) have become available electronically. This has allowed us to have the students download them to their laptops, I-pads or other electronic readers (students still have the option of printing a hard copy). The classes account for between 30 and 40% of our offerings each semester.
- With all academy classes now conducted at the PSTC, we have eliminated countless driver trips to the Santa Rosa Fire Department Training Tower which is a 16 mile round trip.
- The program has also transitioning from composite to aluminum SCBA air bottles that have an indefinite service life (as opposed to the composite cylinders formerly used and have a service life of only 15 years). In addition, the aluminum bottles now in use can be recycled. The reason we had used the composite bottles is that they were donated.
- With the acquisition of an ice machine, the program now has students use re-fillable 1/2 gallon water containers for their hydration which has eliminated the need to purchase bottled water (for a summary of the extent of this problem go to: <http://greenliving.nationalgeographic.com/water-bottle-pollution-2947.html>)
- We have transitioned to a paperless, on-line final written exam for the FFI Academy.
- For the FFI Academy, two years ago we transitioned to the use of EVALs.net which has provided an electronic platform to post handouts rather than use hard copy. Whereas, the program has the ability to deliver all tests electronically, we are pursuing that option this year.

However, the greatest challenge in aligning our program with the District's Sustainability Initiative pertains to the use of water to meet our training requirements. Given the enormous quantities used for these activities, climate change and the prolonged drought trend facing California, this clearly represents an unsustainable practice. Based on meter readings provided by the Town of Windsor, the average use of water for fire training ranges between 300,000 and 500,000 gallons for each Fire Academy and given the potential for our water use to grow with the additional testing we are required to deliver, our use can expect to grow. With the State requiring water purveyors to implement conservation measures, it is only a matter of time before we are told to reduce or

eliminate our use. This would prevent us from meeting the SFT FFI & II curriculum and place us in violation of our accreditation which would essentially shut our program down.

One solution to this problem (also described in section 2.5b) would be to use the "Pozzi" property contiguous to the PSTC to construct a 6 acre fire training area that reclaims water used in fire training by storing in tanks which is connected to a closed hydrant system. An area this size would allow us to conduct all of the hose evolutions covered under our curriculum, would eliminate the facility conflicts we are experiencing with the other programs and allow us to centralize our instruction and operate more efficiently. Such a system would follow the same designs used by facilities constructed and used successfully by other CC Fire programs such as Victor Valley and Miramar. Given Mr. Pozzi's strong support of the Fire Program (including an existing fire scholarship in his name), it would also be a fitting tribute to his legacy

Another advantage is it would also help us meet the District's Sustainability Initiative of working to forward projects that minimize our impact on the environment. Given the amount the District pays for water and the proposal to address the District's structural deficit through the installation of "greywater" systems on the Santa Rosa and Petaluma Campuses, it only make sense to implement a similar reclamation system for fire training at the PSTC for its cost savings alone. Given the District spends between \$700 and \$1000 each month for the PSTC Fire Line/hydrant water bill (the fire Line, domestic and irrigation/recycled waters are billed separately), the project will ultimately amortize itself and save money over the long term. The merits of this became so apparent, that at the District's 2018 Sustainability Summit, the Sustainability Committee made this proposal a priority in its *Green Print* Planning document. Unfortunately, when the District was approached to use Measure H bond funds to purchase this property, because of its budget deficit and citing not being in an "expansionary mode", it declined to purchase the property, even after being approached by the owner. This is a decision which will limit the capacity of the program to produce trained firefighters and severely hamper our ability to meet the future needs of our fire community. To that end, it is clearly in the Fire program and District's best interests to examine alternate funding sources to obtain the property and implement the proposed improvements.

4.1a Course Student Learning Outcomes Assessment

4.1a Course Level Student Learning Outcomes (SLOs)

Eighteen months ago, the Fire Technology program went through an enormous transition with its course offerings that have had a significant impact on the assessments of our SLO's. As shared in previous PRPPs, State Fire Training (our accrediting agency) align all of its courses with the applicable National Fire Protection Association (NFPA) standards which ended up in the retirement of a majority of their courses. This required us to update (re-write) the curriculum for eight existing courses, terminate another seven and developing new curriculum to replace those seven. While prior to these changes, all courses had gone

through the SLO assessment process, when they became effective on January, 1 2017, it has triggered the need to assess the SLO's on the new and updated ones.

There are two relevant factors related to SLO assessment that should be shared with the reader. The first is as the new courses assessments are completed, the information collected will be shared with State Fire Training (SFT) with the purpose of identifying any potential weaknesses in their delivery and determine if they are suitable for delivery in the on-line or hybrid formats. The second is what i would identify as an "unintended consequence" of our budget deficit. Because this has resulted in our program's having to reduce our course offerings, some of these new or updated courses have not (and may not in the future) be offered. If this occurs, it will obviously be impossible to perform the assessments which may come to be identified as a deficiency when our next accreditation occurs.

One outcome we learned in our assessments was that in several classes students already possessed a cognitive understanding of many of the objectives covered in that class. Upon further investigation, we learned it had been gained either through the material being covered in another related course or their job environments. To that end, we now query the students as to their knowledge of the material and if already covered, we alter the schedule to devote more time on other curriculum topics that will benefit the students.

4.1b Program Student Learning Outcomes Assessment

4.1b Program Level Student Learning Outcomes (SLOs)

In the Fire Technology program, there are three degree's/certificates that require assessment. They include:

- Fire Technology Degree
- Fire Technology Certificate
- Firefighter I Academy

Each of these were assessed in 2015 with the next plan for assessment scheduled for 2022.

As identified with the course assessments, one of the outcomes of the program assessments is that it has allowed us to identify redundancies in some of our programs. While some of this is unavoidable as they follow either FESHE, SFT or IFSAC/Pro-Board course plans, we do query our students when these areas of over-lap are reached and if they demonstrate a thorough understanding of the material, we use the time to reinforce more challenging topics which ultimately improves their learning experience.

4.1c Student Learning Outcomes Reporting

Type	Name	Student Assessment Implemented	Assessment Results Analyzed	Change Implemented
Course	Fire 107A - Vol Fire Skills	Fall 2017	Fall 2017	Fall 2018
Course	Fire 107B Ad Vol Fire Skills	Spring 2018	Spring 2018	Spring 2019
Course	Fire 202 - Ethical leadership	Summer 2017	Summer 2017	Summer 2018
Course	Fire 206- Wildland Fire Acad	Fall 2017	Fall 2017	Spring 2018
Course	Fire 208 - Intro to FFI Acad	Summer 2017	Summer 2017	Fall 2017
Course	Fire 208.1 - FFI Academy	Fall 2017	Fall 2017	Spring 2018
Course	Fire 208.4	Spring 2018	Spring 2018	Fall 2018
Course	Fire 208.5	Spring 2018	Spring 2018	Fall 2018
Course	Fire 212 - Rescue Systems	N/A	N/A	N/A
Course	Fire 219 S-290	Spring 2017	Spring 2017	Spring 2018
Course	Fire 241 - Driver Operator 1A	Fall 2017	Fall 2017	Spring 2018
Course	Fire 258 - Driver Operator 1B	Spring 2017	Spring 2017	Spring 2018
Course	Fire 259 ICS 200	N/A	N/A	N/A
Course	Fire 270.1 All Risk Ops	Spring 2017	Spring 2017	Spring 2018
Course	Fire 270.2 Wildland Ops	Fall 2017	Fall 2017	Spring 2018
Course	Fire 270.3 HM Inc CO	Fall 2017	Fall 2017	Fall 2018
Course	Fire 271.1 HR for CO's	Fall 2017	Fall 2017	Fall 2018
Course	Fire 271.2 Fire Admin for COs	Spring 2018	Spring 2018	Spring 2019
Course	Fire 272 Insp & Inv for CO's	Spring 2017	Spring 2017	Spring 2019
Course	Fire 273.1 Fire Ser. Inst. I	Spring 2017	Spring 2017	Fall 2018
Course	Fire 273.2 Fire Ser. Inst. II	Fall 2017	Fall 2017	Spring 2018
Course	Fire 56 - Fire Hydraulics	N/A	N/A	N/A
Course	Fire 61 - Fire Investigation	N/A	N/A	N/A
Course	Fire 71 - Fire Protection Org	Fall 2017	Fall 2017	Spring 2018
Course	Fire 72 - Fire Behavior	Fall 2017	Fall 2017	Spring 2018
Course	Fire 73 - Fire Prevention Tech	Fall 2017	Fall 2017	Spring 2018
Course	Fire 74 - Fire Prot Sys& Equip	Spring 2018	Spring 2018	Fall 2018
Course	Fire 76 - Building Constructio	Spring 2018	Spring 2018	Fall 2018
Course	Fire 77 - Haz Mat	Spring 2018	Spring 2018	Fall 2018
Course	Fire 78 - Fire Safety & Surviv	Fall 2017	Fall 2017	Spring 2018

4.2a Key Courses or Services that address Institutional Outcomes

Course/Service	1a	1b	1c	2a	2b	2c	2d	3a	3b	4a	4b	5	6a	6b	6c	7
FIRE 107.1 (formally 107A)		X		X	X	X	X	X	X		X	X	X	X		X
FIRE 107.2 (formally 107B)		X		X	X	X	X	X	X		X	X	X	X		X
FIRE 206	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 208	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 208.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 208.4	X	X		X		X	X	X	X	X	X		X			X
FIRE 208.5	X	X		X		X	X	X	X	X	X					X
FIRE 219	X	X		X			X	X	X	X	X	X	X	X		X
FIRE 241		X	X	X	X		X	X	X	X	X	X	X	X	X	X
FIRE 258	X	X	X	X	X		X	X	X	X	X	X				X
FIRE 259		X	X	X	X			X	X	X	X	X	X	X	X	X
FIRE 270.1		X	X	X	X	X	X	X	X	X	X	X	X	X		X
FIRE 270.2		X	X	X	X	X	X	X	X	X	X	X	X	X		X
FIRE 270.3	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
FIRE 271.1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 271.2		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 272		X	X	X	X		X	X	X	X	X	X	X	X	X	X
FIRE 273.1	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
FIRE 273.2	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
FIRE 50 (formally 202)			X	X		X	X	X	X	X	X	X	X	X	X	X
FIRE 56 (inactivated)	X	X	X	X			X	X		X	X	X				X
FIRE 61	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 71	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 72	X	X	X	X	X		X	X	X	X	X	X	X			X
FIRE 73	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 74	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 76	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 77	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FIRE 78		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

4.2b Narrative (Optional)

4.2b Narrative (Optional)

As a program that relies heavily on Adjuncts for the delivery of instruction, the burden of assessing our SLO's has fallen primarily on them. For courses that follow an academy type format using multiple instructors, their SLO's have been delivered by the Program Director. The "Core" classes required for a Certificate or Degree will be assessed by the program's one F/T instructor.

As can be seen from the table below, a timetable for each course's SLO assessments has been prepared with the responsible party identified. Given most of these individuals were involved in assessments during the last SLO cycle, it is anticipated the process will be more expeditious this time around.

Fire Program 6-Year Cycle SLO Assessment Plan

Course	SLOs Last Assessed	Participating Faculty	Semester Initiated or to Be Initiated	Semester Completed	Comments	Year of Next Assessment
Fire 56	N/A		N/A		Not Offered	
Fire 61	S2014	Stan Fernandez			Currently Not Offered	Spring 2021
Fire 71	S2013	Jeff Allen & Eleanor Ratliff	F2017			Spring 2020
Fire 72	S2013	Tzahal Avraham	F2017			Spring 2020
Fire 73	S2013	Eleanor Ratliff	F2017			Spring 2020
Fire 74	F2013	Eleanor Ratliff	S2018			Fall 2020
Fire 76	F2013	Eleanor Ratliff	S2018			Fall 2020
Fire 77	F2013	Eleanor Ratliff Linda Collister	S2018			Fall 2020
Fire 78	S2013	Darren Hall	F2017			Spring 2020
Fire 107.1	F2014	Dan Bull	F2017		Contract w/ So. Co. Fire	Spring 2021
Fire 107.2	S2016	Dan Bull	S2018		Contract w/ So. Co. Fire	Fall 2023
Fire 273.1	N/A	K. Sebastiani	S2018		New Class S2017	Fall 2022
Fire 273.2	N/A	K Sebastiani	F2019		New Class F2017	Spring 2022

Fire 273.3	N/A	K Sebastiani	S2020?		New Class S2018	
Fire 272	N/A	Paula Dueweke	S2017		New Class S2017	Fall 2022
Fire 50	X2016	Curt Newsom	X2018			X2023
Fire 271.1	N/A	Jack Piccinini	F2017		New Class F2017	Spring 2023
Fire 271.2	N/A	Jack Piccinini	S2018		New Class S2018	Fall 2024
Fire 270.1	N/A	Jack Piccinini	S2017		New Class S2017	Fall 2022
Fire 270.2	N/A	Kim Thompson	F2017		New Class F2017	Spring 2023
Fire 270.3	N/A	Eleanor Ratliff	S2018		New F2018	Fall 2024
Fire 206	S2014	Randy Collins	F2017		Contract w/ CalFire	Spring 2023
Fire 208	S2014	Sean Grinnell	X2017			Fall 2022
Fire 208.1	S2013	Randy Collins	F2017			Spring 2023
Fire 219	N/A	M Turbeville	S2017		New Class S2018	Spring 2022
Fire 212	N/A		N/A		Not Offered	
Fire 241	S2014	Sean Grinnell	F2017			Spring 2022
Fire 258	2,3,4,5	Sean Grinnell	S2017			Fall 2023
Fire 708	S2014	Jeff Snow			Course used only by EMC	

5.0 Performance Measures

5.0 Performance Measures

As a CTE program, the most significant *non-academic* performance measure that is relevant to share and used to determine our level of success is the percentage of our graduates who have obtained jobs in their chosen career. While local employers consistently inform us of the students that they have hired, this information is anecdotal and obtaining concrete data has been a bit elusive. Therefore, I was extremely pleased when I learned last spring our program had received a *Silver Star* rating from the Chancellor's Office for having outstanding post-college outcomes in employment. More specifically that 91% of our students have been hired in the fire service and over 73% are earning a "living wage". As a CTE program, it does not get much better than that! This data is supported by the enrollment in our Firefighter I Academy, Volunteer Fire Skills program as well as the level of interest in our Wildland Fire Academy which have been at capacity for the last two years.

Due to climate change, longer fire season and the propensity for more devastating urban conflagrations (such as Paradise and Santa Rosa), the enrollment trends for our academy and our "in service" courses such as Truck Operations Academy, Fire Control 3 and Ignitions Operations are robust and are expected to remain that way for the foreseeable future. These trends are also expected to be reflected with the Firefighter I (FFI) and Firefighter II (FFII) "stand alone" certification test process. Although implemented several years ago, we are now beginning to see the interest from local fire agencies as they learn that they can no longer certify (and in many cases promote) their staff without successfully completing this process.

It is important to note that in order to deliver this testing, all personnel must become State fire Training (SFT) *Certified Skills Evaluators* which requires attending 24 hours of specialized courses delivered by their staff. Considerable time has been spent by the Program Director and Admin Assistant hosting these courses locally and following up with staff to ensure they have completed the process needed to obtain their certification from SFT (and allow us to continue to maintain compliance with the terms of our accreditation). These efforts were validated when SFT staff recently conducted an audit of our FFI academy's test, resulting in a positive report.

It should also be noted that over the last two years, the purchase and/or construction of close to \$700,000 of instructional aides (props) have been completed at the PSTC which were managed by the Program Director. These instructional aids have allowed us to be the second accredited Fire Academy in the State to deliver the new FFI curriculum and the first in the State to deliver "Stand-Alone" Firefighter I certification testing. It has also given us the resources needed to deliver other popular courses such as the Truck Academy, Volunteer Fire Skills and Fire Control 3 courses. As one of a handful of academies to have an approved "Stand Alone" Firefighter II certification testing class, it has positioned us to begin providing this service once State Fire Training receives authorization to do so.

Another measure of non-academic services we provide is reflected by our ability to offer a series of non-college related certifications for a variety of firefighting skills above and beyond what is required for a FFI certificate. This is conducted not only to enhance the skill level of the students, but to make them more marketable in what is generally considered a very competitive job environment. It also helps our program stand out among those offered at other community colleges. Most of these certifications are Fire Service Training Education Program (FSTEP) and National Wildfire Coordinating Group (NWCG) courses. A list of the certificates are as follows:

- Incident Command System (ICS) 200 (FSTEP)
- Auto Extrication (16 Hr FSTEP)
- Firefighter Safety and Survival (16 Hr FSTEP)
- Fire Control 3
- S-219 (36 Hr FSTEP)
- S-290 (24 Hr FSTEP)
- S-130 (NWCG)
- S-131 (NWCG)
- L-180 (NWCG)
- S-190 (NWCG), and
- CalFire Basic Firefighter Certificate

Because the CalFire basic firefighter certificate is a prerequisite for employment as a Seasonal Firefighter with Cal Fire (the largest fire agency in the State), this represents a significant enhancement in that any fire academy graduate can immediately be hired by that agency and for our last 4 academies approximately 20% have become employed by that agency.

Similar to the enhancements received in the Fire Academy, completion of our Volunteer Fire Skills program also allows students to receive the following certificates:

- Incident Command System (ICS) 200 (FSTEP)
- Confined Space Awareness (8 Hr FSTEP)
- Hazardous Materials First Responder Operational (20 Hr Calif. Specialized Training Institute).
- S-130 (NWCG)
- S-131 (NWCG)
- L-180 (NWCG), and
- S-190 (NWCG)

5.1 Effective Class Schedule: Course Offerings, Times, Locations, and Delivery Modes (annual)

5.1 Effective Class Schedule: Course Offerings, Times, Locations, and Delivery Modes (annual)

The Fire Technology provides a balanced class schedule convenient to students with day, evening, Friday, and weekend courses. A list of our offerings is shown below:

Fall 2018 Schedule

Fire 71 - 3 sections (M 7-10pm, W-130-430pm & On-line) Fire 72 - 2 sections (TH 7-10 pm, TBA On-line) Fire 73 - 1 sections (T 7pm-10pm) Fire 74 - 1 sections (M 7-10pm) Fire 76 - 1 section (T 7pm-10pm)
Fire 77 - 1 section (Cancelled)* Fire 78 – 1 section (on-line) Fire 107.1 - 1 section (W 7-10, Sat 8-5)
Fire 206 - 1 section (M-F 8-6) Fire 208 – 2 sections (2 Sat & Sun 8am-5pm)
Fire 208.1 1 section (T & TH 6-10pm, SAT & SUN 8-5pm) Fire 208.4 - 1 section (TBA)
Fire 241 - 1 section (F 6-10, Sat, Sun 8-5) Fire 271.1 - 1 section (Cancelled)* Fire 271.2 - 1 section (Cancelled)*
Fire 709 - 1 section(by appointment) Fire 991 - 3 to 5 sections (by appointment)

Spring 2019 Schedule:

Fire 71 – 2 sections (M 7-10pm, On-line, Day class cancelled)* Fire 72 – 2 sections (TH 7-10pm and On-line) Fire 73 – 1 section (T 130-430pm) Fire 74 – 2 sections (M 7-10pm and On-line) Fire 76 – 2 sections (T 7-10pm, On-line)
Fire 77 – 1 section (W 7-10pm) Fire 78 – 1 section (On-line) Fire 107.2 - 1 section (W 7-10, Sat 8-5) Fire 206 – 2 sections (M-F 8-5)
Fire 208 – 2 sections (2 Sat & Sun 8M-5PM) Fire 208.1 – 1 section (M-F 8am-5pm)
Fire 208.4 - 1 section (TBA) Fire 219 - 1 section (F 6-10pm, Sat & Sun 8-5)
Fire 258 – 1 Section (F 6-10pm, S 8am-5pm, SUN 8am-5pm) Fire 270.2 - 1 section (F 6-10pm, 8-5 Sat & Sun)
Fire 272 – 1 section (ThFSat 8-5) Fire 273.1 - 1 section (F 6-10pm, Sat/Sun 8-5) Fire 283 1-Section (TBA)
Fire 284 - 1 section (M-F 8-5) Fire 708 – 1 section (by appointment)
Fire 991 - 3 to 5 sections by appointment

Summer 2018 Schedule

Fire 208 - 1 section (2 SAT & SUN 8-5)
section (Cancelled)*
(by appointment)

Fire 71 – 1 section (M & W 5:30-10:30 PM)
Fire 708 - 1 section (by appointment)
Fire 202 - 1 section (Mon 8-5)

Fire 78 - 1
Fire 991 - 2-3 sections

* Indicates courses cancelled to help meet the District's mandate to reduce our offerings

To provide a balanced offering for working students, almost all core courses required for the degree or certificate program are offered both during the day and evening. Conversely, for "In-service" courses, because our primary population is working firefighters, these are offered during the day. The good news is despite the course reductions mandated by the District, we have still been able to continue this practice. The exception to this is our Fire 270.1, 270.2, 272, 273.1 & 241 & 258 courses which we also offer in the evening/weekend to serve volunteer firefighters.

In regards to their geographic distribution, all degree and certificate core courses are offered both at Petaluma and in Windsor. Most "In-service" courses are offered in Windsor with two offered in Petaluma

As a result of the drought conditions and extended fire seasons we have experienced for the last several years, we have experienced a serious reduction in our fall "In - Service" enrollment. This led to a number of courses being cancelled each Fall since beginning in 2014. Because of the adverse effect this has on our students, with the concurrence of our Advisory committee, we have made a conscious decision to cut back four of our fall "In-Service" offerings. It is worth noting that if these drought conditions and the accompanying extended fire seasons become the new norm, it will require a radical new approach on how we offer any fall courses including the Firefighter I academy.

Since Fall of 2018, we have begun offering all "Core" courses required for a Fire Technology Degree/Certificate in both the on-line and classroom versions allowing for them to be obtained exclusively on-line.

In terms of our ability to serve our students, I feel we do a decent job balancing the hours, location and format. Three years ago, we updated our 5 Year Course Plan and suggested sequence of courses to clearly identify a two year articulation path for our degree and certificate students.

Please refer to sections 5.2a & b for a record of student headcounts for the last three years.

5.2a Enrollment Efficiency

5.1 Student Headcounts .

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	7	134	171	26	140	237	47	177	307	52	259

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	29	181	223	33	155	128	22	140	156	41	167

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	69	209	319	108	226	204	96	160	269	58	169

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	105	524	713	167	521	569	165	477	732	151	595

5.2a Enrollment Efficiency

While this trend over the last few years has been declining, I am pleased to report it was reversed in 2018-19 and rose over 9 percentage points from 75 to 84.1. After examining the attendance in our courses, there are two factors I would attribute to this reverse. First, 2018 is when all of our "core" fire classes became available on-line and all have been full or actually exceeded the allowable enrollment (with permission of course). The second is since the devastating fires of October 2017, there has been a significant increase in the interest of our academies with both the Firefighter I academy being full and the Volunteer Fire Skills academy near capacity. This is also supported by the growth that occurred in our annual class size reflected in the next section.

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	0.0%	72.9%	69.0%	0.0%	87.4%	78.0%	55.6%	73.0%	93.2%	97.8%	86.0%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	64.4%	66.2%	77.5%	73.3%	75.6%	62.4%	48.9%	68.3%	65.8%	91.1%	81.5%

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	85.7%	80.3%	77.2%	102.9%	81.6%	75.3%	91.4%	64.4%	67.1%	45.7%	84.3%

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	77.4%	73.1%	75.4%	94.0%	80.8%	72.6%	73.3%	68.4%	75.0%	65.9%	84.1%

5.2b Average Class Size

5.2b Average Class Size

After experiencing a slight downward trend as can be seen below, our average class size jumped by almost 4 persons last year, which is consistent with the factors described previously in the Enrollment Efficiency section.

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	0.0	41.3	36.3	0.0	39.3	39.8	25.0	39.3	45.8	44.0	40.8

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	29.0	26.0	28.0	33.0	31.0	25.6	22.0	28.0	26.0	41.0	33.4

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	30.0	23.6	21.8	36.0	24.4	22.0	32.0	18.1	19.2	14.5	23.6

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	29.7	27.3	25.9	35.3	29.3	27.6	28.6	25.6	26.9	23.8	33.1

5.3 Instructional Productivity

5.3 Instructional Productivity (annual)

As can be seen by the figures below, the program has consistently exceeded the college goal of 18.7 for Instructional Productivity. While purely anecdotal, I believe much of this can be attributed to the increase in our on-line course offerings which almost universally, have high enrollments.

Santa Rosa Campus

Fire Technology (FIRE)		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
	FTEF	0.53	13.27	16.30	1.13	12.60	22.30	3.50	16.57	29.57	4.67	25.10
	FTEF	0.00	0.60	0.80	0.00	0.60	1.00	0.21	0.80	1.30	0.21	1.30
	Ratio	0.00	22.11	20.38	0.00	21.00	22.30	17.01	20.71	22.74	22.69	19.31

Petaluma Campus (Includes Rohnert Park and Sonoma)

Fire Technology (FIRE)		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
	FTEF	3.12	16.80	20.85	3.25	15.50	12.80	2.36	14.00	15.41	4.04	16.70
	FTEF	0.21	1.25	1.45	0.21	1.00	1.00	0.21	1.00	1.12	0.21	1.00
	Ratio	14.86	13.49	14.42	15.50	15.50	12.80	11.28	14.00	13.77	19.26	16.70

Other Locations (Includes the PSTC, Windsor, and other locations)

Fire Technology (FIRE)		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
	FTEF	2.19	42.15	55.42	5.30	47.42	41.13	3.91	35.05	48.29	1.12	40.51
	FTEF	0.03	1.98	3.05	0.15	1.34	2.20	0.18	1.61	2.66	0.41	1.21
	Ratio	86.10	21.33	18.15	36.00	35.50	18.70	21.39	21.73	18.18	2.73	33.55

ALL Locations (Combined totals from ALL locations in the District)

Fire Technology (FIRE)		X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
	FTEF	5.84	72.22	92.57	9.69	75.52	76.23	9.78	65.62	93.27	9.82	82.31
	FTEF	0.23	3.82	5.30	0.36	2.94	4.20	0.60	3.41	5.08	0.83	3.51
	Ratio	24.83	18.90	17.47	27.14	25.72	18.15	16.34	19.23	18.37	11.90	23.47

5.4 Curriculum Currency

5.4 Curriculum Currency (annual)

Over the last year, Fire 72, Fire 73, Fire 107.1, 107.2 (formally 107A & 107B) and Fire 202 (formally 202), have gone through the update and approval process. Over the next year, Fire 71 & 74 are scheduled to be updated.

Of relevancy to this section are the efforts being made to develop an Associate's Degree based on State Fire Training's (SFT) Company Fire Officer certificate which is in the process of being approved by the Chancellor's Office C-ID workgroup as a model degree. Once this occurs, it is the intent of the fire program, to offer the Company Officer degree here and make it transferable to the CSU's. However, to do so, that will involve taking those courses back to the curriculum committee to be re-numbered as transferable eligible courses. To that end, over the next year the following classes will be updated:

- Fire 202 (to Fire 50)
- Fire 273.1 (to Fire 51)
- Fire 273.2 (to Fire 52)
- Fire 273.3 (to Fire 53)
- Fire 219 (to Fire 69)
- Fire 271.1 (to Fire 80)
- Fire 271.2 (to Fire 81)
- Fire 272 (to Fire 82)
- Fire 270.1 (to Fire 83)
- Fire 270.2 (to Fire 84)
- Fire 270.3 (to Fire 85)

5.5 Successful Program Completion

5.5 Successful Program Completion (annual)

To complete the Fire Technology program with either a Certificate or Major, most students pursue an option that includes the Fire Academy (Fire 208.1). Although this route provides for a very balanced and thorough learning experience, it does create some logistic challenges due to the need to complete the three academy prerequisite courses before the Academy enrollment deadline of June 1st (for the fall academy) and October 1st (the spring academy). One scheduling change we made several years ago was to realign the Fire 208 prerequisite to occur early enough in the semester to allow the student who successfully completes the course to meet the deadline the next academy's semester. Prior to this change, this resulted in the student having to wait another 6 months before being eligible to enroll.

In addition to the resources available to our students, with 39 Adjunct instructors (most of whom are employed in the fire service) available to provide guidance and counseling, it is not unusual for them to assist the students out of the normal class hours. For example, instructors routinely offer the use of the facilities of their local fire agencies to provide remediation opportunities. The Fire Technology program takes a tremendous amount of pride on this high level of collaboration.

Fire Technology Certificates awarded in 2018 are 9, down from 15 in 2017 however, Major/Degrees (AS Degree in Fire Technology) awarded in 2018 are 34, the same as in 2017.

Firefighter I (FFI) Academy Certificates awarded in 2018 are 66. This is up 10 certs from 2017.

The increase in hours combined with the need to also offer "stand-alone" FFI testing and our facility constraints required us to reduce the number of academies we offer in the spring from two to one. Even though we have increased the maximum size of our academies from 34 to 40, it has not been enough to totally offset this reduction.

One final note worth sharing. Despite the more rigorous requirements for the FFI Academy and the testing process, I am pleased to share that since its implementation in 2015, we have not lost a single student in class due to academics or testing, allowing all to move on to participate in their internships and receive their FFI certificates.

5.6 Student Success

5.6a Retention

The retention rate for the FT Program for 2018 is 86.35% which is higher than the overall District rate. This can be attributed to several factors. First, the passing grade for the Firefighter I Academy is 80% which raises most student's GPA's. In addition, many students are already employed in the field and

subsequently, their prerequisite knowledge of the subject matter is higher. Lastly, many are sponsored by fire agencies or have scholarships that have set high minimum academic standards to qualify. For a breakdown of retention by semester, please refer to the tables below.

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	100.0%	66.7%	70.2%	92.3%	74.3%	81.0%	80.9%	73.9%	71.6%	0.0%	68.7%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	100.0%	84.6%	87.5%	87.9%	81.9%	91.4%	95.5%	81.4%	87.7%	0.0%	80.8%

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	90.2%	79.7%	95.4%	91.7%	83.4%	83.8%	84.4%	92.0%	91.1%	100.0%	96.6%

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	93.8%	78.1%	86.7%	91.0%	80.3%	84.3%	84.8%	82.3%	82.2%	100.0%	86.3%

5.6b Successful Course Completion

The successful course completion rate for the FT program in 2018 was 81.3% which is up slightly from 80.8% average for the previous 3 year average).

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	100.0%	63.7%	66.7%	92.3%	72.9%	78.1%	76.6%	71.6%	70.6%	0.0%	64.9%

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	100.0%	80.8%	87.1%	84.8%	78.1%	90.6%	95.5%	79.3%	85.8%	0.0%	79.0%

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	90.2%	79.7%	95.4%	54.6%	83.4%	83.8%	56.3%	92.0%	91.1%	100.0%	96.6%

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	93.8%	76.0%	85.7%	66.5%	78.7%	82.9%	67.3%	80.8%	81.4%	100.0%	81.3%

5.6c Grade Point Average

The Grade Point Average for the Fire Technology program in 2018 was 2.90 which is up from 2.70 which was the average for previous three years. It should be noted that these figures are influenced by the 200 series classes (State Fire Training Courses) which are all Pass/Fail.

Santa Rosa Campus

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	3.56	2.75	2.91	3.56	3.24	3.08	3.02	2.85	3.04	0.00	2.65

Petaluma Campus (Includes Rohnert Park and Sonoma)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	3.79	2.46	2.66	3.48	2.95	3.11	3.86	2.93	2.97	0.00	2.89

Other Locations (Includes the PSTC, Windsor, and other locations)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	0.00	2.71	2.11	0.00	3.10	2.45	0.00	2.92	2.49	0.50	3.13

ALL Locations (Combined totals from ALL locations in the District)

Discipline	X2015	F2015	S2016	X2016	F2016	S2017	X2017	F2017	S2018	X2018	F2018
Fire Technology (FIRE)	2.58	2.65	2.40	0.53	3.09	2.82	0.85	2.90	2.79	0.10	2.90

5.7 Student Access

5.7 Student Access (every third year)

5.7a Ethnicity

Although the ethnicity reflected in Fire Tech (FT) tends to be lower than the District as a whole, in 2018 we saw a significant jump in an increase in our Latino students from 16 to 21%. The changes for the rest of our demographic groups are negligible.

ALL Locations (Combined totals from ALL locations in the District - Source 2016 Fact Book)

Fire Technology (FIRE)	Ethnicity	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	White	910	74.1%	806	68.5%	834	66.5%	776	61.3%

	Asian	7	0.6%	35	3.0%	12	1.0%	18	1.4%
	Black	21	1.7%	15	1.3%	12	1.0%	9	0.7%
	Hispanic	188	15.3%	189	16.1%	209	16.7%	266	21.0%
	Native American	6	0.5%	4	0.3%	11	0.9%	4	0.3%
	Pacific Islander	10	0.8%	15	1.3%	7	0.6%	5	0.4%
	Filipino	4	0.3%	5	0.4%	3	0.2%	1	0.1%
	Other Non-White	55	4.5%	52	4.4%	74	5.9%	64	5.1%
	Decline to state	27	2.2%	56	4.8%	92	7.3%	122	9.6%
	ALL Ethnicities	1228	100.0%	1177	100.0%	1254	100.0%	1265	100.0%

5.7b Gender

While females represent an increasing population of the District as a whole, their composition in the Fire program has remained quite small although it has been trending up over the last 4 years with a 1% increase in 2018. The District's numbers indicate females outnumber males approximately 54 to 45% while in the FT program, males comprise 87.1% of the population (down slightly from 89% in 2017). These numbers reflect an industry that has a male dominated work force. This has long been recognized in the industry as well as the in FT programs throughout the California Community College system and is being continually evaluated for improvement.

Some of these strategies that have been implemented to increase the number of females include: hiring more female instructional staffing the FT program (20% are currently female), attending Career Fairs at local high schools by the programs F/T instructor (who is female) and the establishment of a Fire/EMS Club with a mission of promoting diversity in the fire service.

ALL Locations (Combined totals from ALL locations in the District)

Fire Technology (FIRE)	Gender	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	Male	1080	87.9%	1032	87.7%	1123	89.6%	1102	87.1%
	Female	131	10.7%	129	11.0%	113	9.0%	126	10.0%
	Unknown	17	1.4%	16	1.4%	18	1.4%	37	2.9%
	ALL Genders	1228	100.0%	1177	100.0%	1254	100.0%	1265	100.0%

5.7c Age students in each Discipline at first census broken down by age .

ALL Locations (Combined totals from ALL locations in the District)

Fire Technology (FIRE)	Age Range	2015-16	Percent	2016-17	Percent	2017-18	Percent	2018-19	Percent
	0 thru 18	88	7.2%	111	9.4%	128	10.2%	164	13.0%
	19 and 20	196	16.0%	185	15.7%	250	19.9%	241	19.1%
	21 thru 25	402	32.7%	412	35.0%	395	31.5%	379	30.0%
	26 thru 30	266	21.7%	245	20.8%	210	16.7%	228	18.0%
	31 thru 35	138	11.2%	119	10.1%	134	10.7%	115	9.1%
	36 thru 40	57	4.6%	43	3.7%	64	5.1%	68	5.4%

	41 thru 45	43	3.5%	24	2.0%	14	1.1%	21	1.7%
	46 thru 50	19	1.5%	20	1.7%	17	1.4%	35	2.8%
	51 thru 60	18	1.5%	18	1.5%	35	2.8%	10	0.8%
	61 plus	1	0.1%	0	0.0%	7	0.6%	4	0.3%
	ALL Ages	1228	100.0%	1177	100.0%	1254	100.0%	1265	100.0%

5.8 Curriculum Offered Within Reasonable Time Frame

5.8 Curriculum Offered Within Reasonable Time Frame (respond every third year)

The Fire Technology Program at SRJC offers all of its required Core classes each semester – Fire 71, Fire 72, Fire 73, Fire 74, Fire 76, Fire 77 and Fire 78. In addition, during the summer we offer Fire 71 in a hybrid format. We also we offer in the Fall and Spring semesters such electives as, Fire Command, Training Instructor, Fire Inspection/Investigation and Driver Operator for students who are currently employed with fire agencies. This is important as it allows employed firefighters to obtain their State Fire Training (SFT) Company Officer Certificate within a one year period.

The total number of sections offered in the 2018-19 school year is 23 for the Spring semester and 19 for the Fall which mirrors the 2017-18 year. The main reason for this is with the retirement of the SFT Fire Officer certification track on Dec 31, 2016, the eight courses required for that certification were also retired (and were either terminated or inactivated in the Districts curriculum system). While the program has begun offering the eight courses required for the SFT *Company* Officer certification track, because this certification is new, there will undoubtedly be a lull before local firefighters begin to enroll in it.

5.9a Curriculum Responsiveness

5.9 Curriculum Responsiveness (every third year)

Our Program works closely with our stakeholders to meet the changing needs of our students, employers and community by remaining responsive to the recommendations of our Advisory Committee (comprised of representatives of our local fire agencies) and as shared by the feedback we receive from our Advisory Committee and by regular attendance at our Fire Chief's and Training Officer meetings.

One example of this is a change we made last year to our Volunteer Fire Skills program (Fire 107A & B). Given the large number of Volunteer Firefighters in the County, there has been a genuine need for such a path which became more pronounced after the fire siege experienced in October 2017. To accommodate this

spike in interest, at the request of local fire agencies, we changed the sequencing of the program to allow either course to be taken first, eliminating a delay that may have kept students from pursuing their training for as long as six months. It should be noted that an outline of this program has been adopted by the California State Firefighter's Association to deliver training to other Volunteer Fire departments outside of the County allowing us to be a leader in this field at the statewide level. Now in its sixth year, it has also become a popular training platform for 6 other Fire Districts in the County as well as the Federal Fire Department at the Two Rock Coast Guard base in Petaluma.

In terms of plans for new directions in our program, we have only recently completed an alignment of our FFI Academy and "In-Service" courses to align with National Fire Protection Association (NFPA) standards resulting in the addition of 8 new courses and the termination of a like amount. This not only kept our curriculum current, but also kept us in compliance with the terms of our accreditation.

As a CTE program, we have an Advisory Committee consisting of twelve members and over the last three years have maintained an average attendance of 75% per meeting. The members of our committee represent the various fire service stakeholders for Sonoma, Marin and Mendocino Counties including the Fire Chiefs, Fire Training Officers, Fire Prevention Officers as well as two largest fire agencies in the region (Santa Rosa and CALFIRE). The rationale is to provide representation from every aspect of the occupation that a degree or certificate completer might enter. Of the twelve members, all are employed in the fire service in Sonoma, Marin, Mendocino or Napa Counties and two instruct in the program.

To provide a means for the Advisory Committee to review curriculum, we have a standing item in our agendas called Curriculum Update where all curriculum be it changes, updates or new courses are reviewed and feedback solicited. While this process has proven very beneficial to our program, one of the more positive impacts comes from the new courses they recommend. To give an example, in the past three years, we have developed the following courses based on their recommendations:

- Fire 208.4 Firefighter I Capstone Test Class
- Fire 208.5 Firefighter II Capstone Test Class
- Fire 280 Fire Dynamics
- Fire 283 S-219 Burn Boss
- Fire 290 Intermediate Fire Behavior
- Fire 284 Truck Academy Operations

- Fire 285 Fire Control 3

5.9b Alignment with High Schools (Tech-Prep ONLY)

5.9b Alignment with High Schools (Tech-Prep ONLY every third year)

Fire 71 can be taken by High School Students through their enrichment program and is available on-line. Marin and Sonoma counties host Explorer Programs that are also linked with our Firefighter I Academy curriculum. Articulation does occur with our prerequisite courses to enter our Firefighter I Academy, such as EMS 100 – First Responder, CPR and Advanced First Aid.

I am also pleased to report that we are beginning to explore the possibility of offering Fire 71 as concurrent enrollment at a local high school delivered by our F/T faculty

While the Fire Tech Director has served as a member of their Advisory Committee for Napa High School's ROP program for the last 4 years, I am sorry to report the program was recently terminated due to lack of funding. However, we are beginning to work on developing the curriculum for an *Introduction to Public Safety Career's* course for delivery in High Schools as a concurrent enrollment class.

5.10 Alignment with Transfer Institutions (Transfer Majors ONLY)

5.10a Alignment with Transfer Institutions (Transfer Majors ONLY, every third year)

Our Fire Technology program is aggressively working to expand the transfer opportunities for our students. For example, we recently established an articulation agreement with Humboldt State University's 100% on-line *Leadership Studies* Bachelor's program to accept the full 60 units earned from their AS degree earned at SRJC. We are currently working with University Alaska Fairbanks to establish an articulation agreement with their 100% on-line *Homeland Security and Emergency Management* Bachelor's degree and CSU San Marcos' *Wildland Urban Interface* 100% on-line degree. Last November, I met with representatives of Brandman University (www.brandman.edu/irvine) who reviewed our program and accepted our degree and all the associated units for transfer to their 100% on-line *Public Administration* Bachelors program.

To maximize the number of units that can be applied to the Bachelor's programs described above, we are in the midst of an aggressive project to re-number all of the State Fire Training (SFT) courses required for their Company Officer Certificate (all Fire Program electives) to be transferable to those institutions. There is an alternate reason for this effort as well. Over the last 18 months, the Director has been working with a State-wide committee to develop a model (C-ID) curriculum for a *Company Fire Officer* associate's degree that is in the final stages of the approval's process with the Chancellor's office. Once approved, the goal will be to add this degree to those offered by our program.

5.11a Labor Market Demand (Occupational Programs ONLY)

5.11a Labor Market Demand (Occupational Programs ONLY, every second year)

Over the past 5 years there has been a surge of fire service retirements throughout California. This is due in part to the retirement package known as 3% at 50 which has allowed firefighters to retire at age 50 with up to 90% of their current salary. This has opened positions to many of our graduates and it appears that this trend will continue for the next few years.

According to the Employment Development Department, between 2016 and 2021, California Firefighters will experience a 6% growth in employment with Fire Inspectors and Investigators growing by 8%. The figures will be more pronounced in the North Bay region where growth is expected to reach 12%. While these figures do not represent Volunteer positions, it should be noted that approximately 50% of our Academy students will serve internships as volunteer firefighters which receive generous stipends that are the equivalent of a part-time job. Most Volunteer fire jobs often lead to a paid positions.

However, one of the most encouraging statistics is that with the curriculum changes to the Fire Academy (Fire 208.1), students now receive a *Calfire Basic Firefighter* certificate upon successful completion of the academy. This has led to 30-40% of the graduates in the last three academies being hired by Cal Fire. In addition, Santa Rosa Fire department recently hired six academy graduates which supports the above mentioned trend.

These figures are supported by the *Silver Star* rating we received from the Chancellor's Office for having outstanding post-college outcomes in employment. More specifically that 91% of our students have been hired in the fire service and over 73% are earning a "living wage". As shared in section 5.0, it does not get much better than that! This data is supported by the enrollment in our Firefighter I Academy, Volunteer Fire Skills program as well as the level of interest in our Wildland Fire Academy which have been at capacity for the last two years.

Within our region (North Bay/Sacramento), Solano, American River and Sierra College also offer degrees in the same discipline.

5.11b Academic Standards

5.11b Academic Standards (every third year)

The area of our program that has seen the most improvement in this area has been in our efforts to develop a *Company Office* degree based on State Fire Training's (SFT) Company Officer Certificate. To achieve this, each of the courses (previously approved by the District as fire electives) has been going through the re-numbering process (as described in 5.10) with the curriculum committee. Ironically, the greatest challenge to this process has been to demonstrate the classes have the academic rigor (English & critical thinking skills) required by a Bachelor's level course. Of the four classes that are currently going through this process, all have been able to demonstrate this.

6.1 Progress and Accomplishments Since Last Program/Unit Review

Rank	Location	SP	M	Goal	Objective	Time Frame	Progress to Date
0001	Windsor	05	03	Construct Fire Training area that reclaims water used in hose evolutions and recycles for future use.	Obtain property adjacent to PSTC, incorporate 500' x 100' training area into prospective site designs, dedicate funds, implement project timeline, prepare engineered drawings, develop RFB, award contract, begin construction	Board support by Dec 2018	While the proposal was enthusiastically supported by the District's Sustainability Committee and made a priority in its Green Point Plan, the District declined to purchase the property adjacent to the PSTC, effectively terminating the project
0002	Windsor	02	06	Implement "Stand alone" Firefighter II (FFII) test class	Finish construction of USAR prop and develop syllabus	June 2019	Prop is complete and syllabus is being drafted
0002	Windsor	01	07	Obtain Draeger Phase II prop to perform Firefighter II and other mandated training	Prepare and be awarded SWF grant, obtain bids for concrete pad and pour, deliver & set up Phase II prop, conduct staff training,	Completion by Dec 2018	Project completed Dec 14, 2018
0004	Windsor	04	01	Continue to perform 2nd round of SLO Assessments	Contact Instructional staff and share Project SLO guidance & forms.	Continuous	Support (as needed) from the SLO Coordinator
0005	Windsor	01	06	Develop Truck Academy curriculum and obtain necessary props to deliver the course	Write curriculum, obtain CRC & Chancellor's approvals, submit grants for necessary props and obtain approvals, purchase props, implement class	Spring 2019	Curriculum has been developed and approved, props needed for the course have been obtained through grants, cadre has drafted syllabus and course added for its inaugural delivery in May of 2019
0006	ALL	08	06	Begin delivery of Fire 73 on-line (last core class not offered this format)	Continue to work with support Instructor developing course in CANVAS	Begin delivery in Fall 2018	Complete in spring of 2018 and offered for the first time in Fall 2018
0007	ALL	00	00				

6.2b PRPP Editor Feedback - Optional

After having prepared the PRPP for my program for 8 years, I would offer the following recommendations:

Given the passage of Measure H and the interest in updating many of the District's facilities, creating a specific nexus between section 2.5b (Analysis of Existing Facilities) and the allocation of Measure H funding would be appropriate.

I also feel there would be tremendous value to reinstating the *Program/Unit Vision for the Next Three Years* that was last included in the 2013 PRPP (Unit 3.1a). Speaking for my own program, the change we are experiencing is unprecedented. The result is a need to articulate these changes and the impacts they will have not only on the Fire program, but the District as well. Re-introducing this section would provide the vehicle to do this.

6.3a Annual Unit Plan

Rank	Location	SP	M	Goal	Objective	Time Frame	Resources Required
0001	Windsor	02	06	Implement "Stand alone" Firefighter II (FFII) test class	Write the syllabus for the course	June 2019	None
0002	Windsor	01	06	Obtain approval for new Associates Degree based on Model C-ID Company Officer degree approved by the Chancellor's office	Re-number those classes in the program already approved to be eligible for transfer to the CSU's and othe Bachelor's programs	Completion by Dec 2019	Support from Curriculum Dean and committee
0004	Windsor	04	01	Continue to perform 2nd round of SLO Assessments	Contact Instructional staff and share Project SLO guidance & forms.	Continuous	Support (as needed) from the SLO Coordinator
0005	Windsor	01	06	Develop Truck Academy curriculum and obtain necessary props to deliver the course	Write curriculum, obtain CRC & Chancellor's approvals, submit grants for necessary props and obtain approvals, purchase props, implement class	Spring 2019	Support from Curriculum, CTE and Purchasing offices
0006	ALL	08	06	Begin delivery of Fire 73 on-line (last core class not offered this format)	Continue to work with support Instructor developing course in CANVAS	Begin delivery in Fall 2019	Support of DE and Disability Review offices.
0007	ALL	00	00				