Bakersfield College

Comprehensive Program Review

**I. Program Information:**

Program Name: Fire Technology Program

Program Type:  Instructional  Non-Instructional

Program Mission Statement:

The mission of the Bakersfield College Fire Technology Program is to promote student success by providing quality instruction for degree, and academy graduates to apply for entry level firefighting positions.

Program Description: Describe how the program supports the Bakersfield College Mission.

One of the three primary tenets of the Bakersfield College mission is to provide excellent learning opportunities in career and technical education for our community which permits students to thrive in a rapidly changing world.

The Fire Technology Program meets this primary mission by providing an educational opportunity within the Fire Services Career Pathway and by program completers earning their Associate in Arts or Science degree, in Fire Technology or Wildland Firefighting. The program meets the critical community need in the Bakersfield City, Kern County and State fire service needs for workforce training of entry-level firefighters by providing multiple job skills and certificates of achievement in Fire Officer, Chief Officer, and Fire Technology. The college mission is reinforced in the Program’s learning outcomes and goals.

Program Learning Outcomes (PLOs)/Administrative Unit Outcomes (AUOs)—please list:

**Program Learning Goals and Outcomes:**(Goals 1-5; Learning Outcomes a,b,c, etc.)

1. Student will identify minimum qualifications and entry-level skills for fire fighter hiring.

1. Describe the history, functions, culture and development of local, state and federal public safety and emergency services organizations.
2. Identify minimum standards for fire service positions and hiring practices in public and private organizations.
3. Define terms, equipment, facilities, and emergency management systems associated with fire service and public safety organization.

2. Student will demonstrate the ability to identify health and safety violations in the station, on the apparatus, and fire ground.

1. Student will explain the history of the 16 life safety initiatives.
2. Student will explain the importance of reporting and investigating all near-misses, injuries and fatalities.
3. Student will define the term risk management and concepts of health, wellness, and the prevention of illness, injuries and accidents.

3. Student will Demonstrate the ability to analyze, appraise and evaluate fire and emergency incidents.

1. Explain the national emergency services worker fatality problem and the history of the 16 life safety initiatives.
2. Explain the importance of reporting and investigating all near-misses, injuries and fatalities and how to incorporate the lessons learned to affect cultural change throughout emergency services.
3. Define “all risk” risk management and concepts of health, wellness, and the prevention of illness, injuries and accidents.

4. The student will be able to identify and comprehend laws, regulations, codes and standards that influence fire department operations.

1. Define the national fire problem and functions of fire prevention organizations and associations.
2. Identify the model codes, standards, and regulations related to fire prevention.
3. Identify the minimum professional qualifications at the local, state and national level for fire prevention employment opportunities.
4. Describe inspection practices, procedures and methods of fire and life safety education.

5. The student will be able to analyze the causes of fire, determine extinguishing agents and methods, differentiate the stages of the fire and fire development, and compare methods of heat transfer.

1. Identify theories of fire behavior and combustion.
2. Define classifications of fire and associated methods of extinguishment.
3. Describe materials as they relate to fire fuels and the combustion process.
4. Define the terms and concepts associated with the chemistry and dynamics of fire.

6. The student will identify and describe common types of building construction and conditions associated with structural collapse and firefighter safety.

1. Describe building construction as it relates to firefighter safety, building codes and inspections, fire prevention, and firefighting strategies.
2. Analyze the hazards and tactical considerations associated with various building types and occupancies.
3. Identify building design, materials, and systems and their relationship to fire behavior and potential structural failure.

7. The student will differentiate between fire detection and fire suppression systems. Student will design and diagram a wet and dry fire protection system, and identify alarm system components and their operations.

1. Describe the design, use and maintenance of fire protection systems and the codes and standards that regulate them.
2. Explain the application and operation and water-based, non-water based and portable fire suppression systems.
3. Identify fire detection, alarm, smoke management and monitoring systems, including their testing, maintenance, and operational requirements.

***Instructional Programs only:***

1. List the degrees and Certificates of Achievement the program offers.

Degree

* + Associate in Arts, Fire Technology
  + Associates in Science, Wildland Firefighting

Certificate of Achievement

* + Fire Technology

1. If your program offers both an A.A. and an A.S. degree in the same subject, please explain the rationale for offering both. N/A
2. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both. N/A

**II. Program Assessment:**

1. How did your outcomes assessment results during the past three years inform your program planning?

The program assessment results were overall above average. They reflected a slight increase of 7.3% over last year. Some new concepts in instruction are being explored, if the advisory committee is in agreement I will do a study on how to implement this concept. The concepts are not totally new to other academic areas, but would do away with the lecture, then test to see what they learned style.

The new style would require students to read the lecture on their own before coming to class. Take an online quiz, the instructor would review the results before class then do a short lecture in class to reinforce the areas they did less desirable in. This would free up more class time to do group problem solving projects to reinforce SLO’s.

1. How did your outcomes assessment results during the past three years inform your resource requests this year?

In the fire behavior core class students still need help with the concepts of (Flashover & Backdraft) Understanding the importance of these concepts is a vital safety concern and that is why the flash over prop remains the primary requested resource both last year and this year.

1. Describe how the program monitors and evaluates its effectiveness.

The program monitors and evaluates its effectiveness through an annual review of program operations as well as the Evaluation Plan Goals of the department. Outcomes assessment is extensively conducted at the program level for its 7 program learning goals in alignment with the college mission. The outcomes are identified in the program’s Evaluation Plan Goals document and analyzed in program meetings.

1. Describe how the program engages all unit members in the self-evaluation dialogue and process.

The program engages the following individuals and groups in assessing the degree and certificate programs offered by the department:

Semi-annual department meetings include 1 fulltime faculty and five adjunct faculties that discuss curriculum, student progression, success, and attrition. The department assessment plan is also analyzed which identifies PLO’s, and individual course SLO’s.

Quarterly advisory committee meetings include the community partners involved with training students within the academy environment are made up from city and county training chief’s and staff. The advisory committee meets to discuss current State Fire Marshal regulations, needs of the community, and revisions to the program, curriculum, success and retention rates.

1. Provide recent data on the measurement of the PLOs/AUOs, as well as a brief summary of findings.

The program actively assesses student success throughout the 2-year program as part of our Program Evaluation Plan. This assessment plan includes each outcome, the analysis tool and method, the expected benchmark, the responsible party for the activity and the results and action plan. Program outcomes continue to reflect outstanding academy graduation rates, and degree SLO’s percentages.

1. What have the program’s PLOs/ AUOs revealed or confirmed in the last three years?

The academy success rates are 97 to 99%, but some of the degree program completion rates for both fire technology AA degree and wildland firefighting AS degree are falling below the set program and accreditation benchmark. From the past three years (2012-2014), program attrition has been highly variable from 7-25.4%. The highest attrition has been primarily due to the following reasons, the student was taking just any class they could get into for pel grant financial reasons, to voluntary withdrawals due to change of major and personal/financial reasons. While program faculty attempt to advise students during their months of enrollment, the faculty feel we have little control over students who deciding to gain financially from the system or change their career plans once they have experienced both the lecture and manipulative education portions of the curriculum. The only fulltime program faculty member has started offering a free orientation workshop in the fall semester to try to alter this trend. This orientation now include a discussion of the career, time commitment necessary for program study, financial aid opportunities of the college and discussion with students currently enrolled in the program.

1. *If applicable*, list other information, data feedback or metrics to assess the program’s effectiveness (e.g., surveys, job placement, transfer rates, output measurements).

The program fulltime faculty member is going to attempt to develop a survey, which can be taken at the end of each semester to help gauge student feedback.

1. Discuss the strengths of your program.

This program provides the students with a wide diversity of instruction provided by outside partnering agencies (City, County Fire Departments and US Forest Service), which together combine to provide quality education and opportunities for BC students who engage and apply themselves in this learning environment. Opportunities for learning include Fire Academies, Confined Space Rescue, Fire Officer, Chief Officer, Trench Rescue, and many other Wildland Firefighting courses.

The Firefighter I academy pass rates remain consistently above average. Seventy -five (75) Cadets have passed the State Fire Marshal final exam on the first attempt, with a mean pass rate of 98%.

The Fire Technology Program continues to provide quality education for both pre-service and in-service students. With the State Fire Marshal reaccreditation completing this past spring semester, we will shortly be able to offer IFSAC accreditation to all of our academy students. This means the job market will no longer limit our students to just California, but to every state in the nation.

1. Discuss areas for improvement in your program.

The program has had a consistent head count average of 1,700 students each year for the past five years. The program unfortunately has only one fulltime faculty member and one fulltime department assistant to manage and oversee the entire program which last year had 126 sections, and produced 503.9 FTES. Our FTEF of adjunct is 61%. The program productivity ratio is at 126% (FTES/FTEF), compared to 17.1% college wide. The program needs a fulltime Faculty Fire director to oversee the two contracts, four budgets, two advisory boards, and responsibility of almost 100 adjunct and professional expert faculty members (and their evaluations and payroll each month).

As reported in the 2013 annual program review, the program requested one additional fulltime instructor to teach EMT. This position was not filled, which continues to overload the only fulltime faculty member, mainly in the areas of department chair responsibilities (which we really don’t have a department chair because you have to have two fulltime faculty) and employee evaluations.

1. *If applicable*, describe any unplanned events that impacted your program.

The academy classes require certain personal protective equipment (SCBA and turnouts) which is about to expire. The advisory board must make a decision as to if they will pay for new equipment, if they will require the student to rent the equipment from an outside third party ($200), or ask the college to pay for the equipment.

The direct impact is that academy students will not be able to participate in live fire training exercises. This directly impacts the ability of students to learn how to operate inside a structure performing interior fire suppression tactics. Additionally the students will not be able to be certified by the state if all curriculums have not been covered, this is also an OSHA requirement.

**III. Resource Analysis:**

1. Human Resources
2. If you are requesting any additional positions, explain briefly how the additional positions will contribute to increased student success. (Faculty Request form; Classified Request form)

The college currently has two EMT classes (Fire B-72h and EMTC B50) offered five times throughout the year. Both classes are taught by different adjunct instructors, both classes are always full. Currently the EMT program is a one semester course, which results in a job skills certificate for the student. The proposal would be to hire one fulltime instructor to teach both courses (Fire B-72h and EMTC 50).

The Department Of Transportation curriculum is required by the State and this curriculum has recently been revised, which is requiring a change in curricular hours. An increase in curricular hours makes the load for this course more than an adjunct can teach (.61 load). Without a full time position, the course would have to be split between two instructors which greatly impacts pedagogy and student success. Therefore, the department is requesting a full time position.

1. Professional Development (Professional Development form)
2. Describe briefly the effectiveness of the professional development your program has been engaged with (either providing or attending) during the last cycle, focusing on how it contributed to student success.

Program faculty has participated in professional development workshops and opportunities on-campus as well as off-campus by attending Moodle classes and other educational/professional meetings. The Fire Technology Directors Association quarterly professional meetings have provided effective opportunities to share gained knowledge on new up and coming changes to State and National Standards in Fire Technology for 2013/2014. On-campus development has included inviting all counselors and CTE advisors out to the Olive Drive Fire Training Center where I shared the ins and outs of the fire technology program. This was done in an effort to inform and advise everyone who could counsel our fire tech. students.

Professional development is necessary for faculty to remain current in the fire service field. In addition, the faculty must be informed of changes to programmatic accreditation standards by both the State and national accrediting agencies. Both regular and nontraditional learners will benefit from faculty maintaining compliance for accreditation and licensure and to ensure that the curriculum meets industry standards. This will enable students to transition from the classroom and field environment to work. Information and practices learned in professional meetings are regularly disseminated to the program’s advisory partners during advisory board meetings.

1. Facilities (M&O requests can be submitted by completing the [M&O Request form](https://committees.kccd.edu/sites/committees.kccd.edu/files/Copy%20of%2012%20M%26O%20Needs%20Workbook%2012-13%20APR.xlsx).)
   1. No request were made this year.
2. Technology (Technology requests can be made by filling out the [ISIT Request form](http://www.bakersfieldcollege.edu/irp/Annual%20Program%20Reviews/2012-13/13%20ISIT%20Priority%20Workbook%2012-13.xlsx).)
3. Has your program received new or repurposed technology in this 3-year cycle?
   1. If yes, discuss the assessment of its effectiveness as it relates to student, program, or administrative outcomes.
   2. If no, what technology could play a contributing factor in future student success and outcomes for your program? How would you evaluate the effectiveness of this technology?
4. Discuss the effectiveness of technology used in your area to meet [college strategic goals](http://www.bakersfieldcollege.edu/collegecouncil/BAKERSFIELD%20COLLEGE%20STRATEGIC%20FOCUS%202013-14.pdf).

No, although we have had a request for new technology which have not been approved yet. Technology is taken for granted today, because it has just become a part of our society. Our academy instructors are looking at tablets now, the state firefighter academy exams will be taken on these devices in the future. We use fire simulator software to build and improve the skills of firefighters because we don’t have as many fires today as we have in the past, with the simulators we can create a virtual fire as often as necessary to maintain firefighter skills.

1. Does your program need new or repurposed technology to support student success? Justify your ISIT Technology Request and your vision for meeting student, program, or administrative unit outcomes for this next 3-year cycle.

As reported in the 2013 annual program review, the program requested funds to purchase a Flashover fire simulation prop. The Flash Fire Simulator transforms training and awareness for students, first responders, employees of high risk industries and fire prevention programs. First responders and our students can all benefit from this comprehensive look at fire behavior. Educational opportunities include:

1. Demonstrates the exhibiting precursors to and the properties of a backdrafts.

2. Training students on flashover prevention techniques, heating combustible materials to their auto-ignition temperature to demonstrate what happens in a flashover.

3. Showing the explosive potential when the air/gas mixture in a room reaches the lower explosive limit.

4. Demonstrating to students what happens when the upper explosive limit (UEL) is reached. Impressing upon students the effects of proper and improper ventilation practices.

1. Budget (Changes to the budget allocation can be requested using the [Budget Change Request Form](http://committees.kccd.edu/bc/committee/programreview)).

If you are requesting any additional funding, explain briefly how it will contribute to increased student success.

No change is requested other than the position being requested.

**IV. Trend Data Analysis:**

Review the data provided by Institutional Research. Provide an analysis of program data throughout the last three years, including:

* 1. Changes in student demographics (gender, age and ethnicity).

Program demographics have generally remained the same, except for white the ethnic group which has steadly decreased from 2009-2010. This group has gone from 983 to 944, 850, 826, and now 767. This is a reduction of over 215 white students. All other groups have gone up or down over the years, but average the same.

Program demographics regarding age varied only slightly within the last three years. The age demographics of the program indicate the age of the fire tech. student is higher than the regular BC student. The highest population of students at the college is the 20-29 age range (52%), but this age group has reduced by 100 students over the past three years. One major difference in program statistics vs. college statistics is that the program has 9% of its student population from age 19 & under while the college average for the past year is 25%. Another major difference in program statistics vs. college statistics is that the program has an older age population for the past three years with 29-30% of students in the 40 and up age range while the college average for 2013-2014 is only 10%.

The most likely rationale for this is that the older students understand what a career represents, good pay, security, and benefits. Program ethnicity mirrors the college trend in only a few areas.

* 1. Changes in enrollment (headcount, sections, course enrollment, and productivity).

Program enrollment increased from 2011-2014 on its number of sections. In 2011 the number of sections were 98, compared to 2014 the number of sections grew to 127. The number of students/section last year was 108 face to face, compared to 19 for DE.

The program demonstrated an increase in productivity for the last three years from 65.4 FTES/FTEF in 2011-2012 to 61.8 FTES/FTEF in 2012-2013 to 69.5 FTES/FTEF in 2013-2014. This represents an 8.3% increase in productivity for the program over the past three years. Although improvement has been demonstrated by the program, the program exceeds the college wide mean for traditional face-to-face classes of 17.1 FTES/FTEF (2013-3014). Overall, program costs fall below the State apportionment allotted for FTES for a smaller program that is State regulated by a low faculty-to-student ratio in CTE course sections.

* 1. Success and retention for face-to-face as well as online/distance courses.

Success and retention rates continue to remain excellent and significantly above college-wide statistics. Program retention was 100% for the past three years while college retention for face-to-face courses varied from 84-87% for the same time period. Program success also remains excellent with 98-99% for the past three years while college success was lower with 68-70% for the same time period. There are no online/distance education courses.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Retention **FTF** |  |  |  |  |  |
| Fire Tech. | 99% | 99% | 100% | 100% | 100% |
| College Wide | 85% | 84% | 84% | 86% | 87% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Success Rates **FTF** |  |  |  |  |  |
| Fire Tech. | 96% | 97% | 98% | 99% | 99% |
| College Wide | 67% | 66% | 68% | 69% | 70% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Retention **DE** |  |  |  |  |  |
| Fire Tech. | 86% | 82% | 73% | 85% | 81% |
| College Wide | 76% | 74% | 73% | 76% | 77% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Success Rates **DE** |  |  |  |  |  |
| Fire Tech. | 58% | 52% | 47% | 59% | 56% |
| College Wide | 53% | 50% | 50% | 54% | 52% |

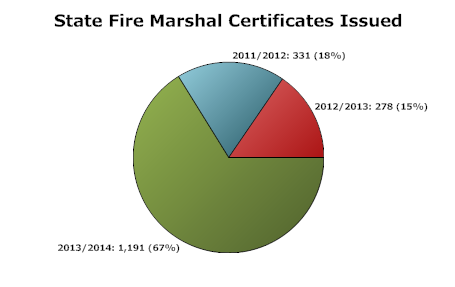
Success and retention rates for Distance Ed while low were still above college wide figures. Plans to improve these number included meeting with faculty in an effort to help them understand the importance of dropping students before the census date who were not meeting the college’s online attendance policy. The program will continue to watch this area next year looking for a positive change. See appendix A for more detailed information on why the difference between face to face and distance ed.

* 1. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded).

The trend data reported by the college is correct in the number of degrees awarded.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| AA Degree Fire Tech | 18 | 14 | 17 | 15 | 10 |
| AS Degree Wildland F/F | 4 | 3 | 0 | 1 | 1 |
| CA Fire Tech. | 4 | 9 | 20 | 13 | 14 |

The program issued directly over one thousand one hundred and ninety state fire marshal certificates last year. The program did not receive credit for these job skills certificates, because they were not college certificates. Never the less the program did go to great lengths to process and grade the state exams in order to issue them to the students. These certificates are mainly acquired by the students for professional development. See appendix B for details.



* 1. Other program-specific data (please specify or attach).

The State of California, Employment Development Department ([www.labormarketinfo.edd](http://www.labormarketinfo.edd)) projects an “outlook or demand” increase of 3% to 7% Projected growth for 2012-2022 of 104,000 for firefighters in California. Statewide California has a total of 28,990 firefighters.

The career of fire technology is a high wage career. BLS indicates that the 2013 median hourly wage for California was $21.92 with an annual median wage of $69,130 for firefighters.

Because our students are eligible to go statewide for employment it is very difficult to track students who have graduated from our programs.

* 1. List degrees and certificates awarded (three-year trend data for each degree and certificate awarded). Include targets (goal numbers) for the next three years.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Degree or Certificate** | **2011-2012** | **2012-**  **2013** | **2013-**  **2014** | **2014-**  **2015** | **2015-**  **2016** | **2016-**  **2017** |
| Associate in Arts Degree- Fire Technology | 17 | 15 | 10 | 18 | 20 | 23 |
| \*\*Associate in Science Degree- Fire Technology | 0 | 1 | 1 | 0 | 0 | 0 |
| Associate in Science Degree- Wildland Firefighting | 4 | 1 | 1 | 7 | 10 | 12 |
| Fire Technology Certificate Achievement | 20 | 13 | 14 | 17 | 20 | 25 |
| \*State Fire Marshal Certificates | 331 | 278 | 1191 | 1000 | 1000 | 1000 |
| \*\*This degree has been deleted |  |  |  |  |  |  |
| \*Not captured in College Trend Data; Program Records Indicate Total |  |  |  |  |  |  |

**V. Progress on Previously Established Program Goals, Future Goals and Action Plans:**

1. List the program’s goals from the previous Program Review. For each goal, please discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

|  |  |  |  |
| --- | --- | --- | --- |
| **Previously Established Goal** *(state goal)* | **Which institutional goals from the Bakersfield College Strategic Plan will be advanced upon completion of this goal?**  **(select all that apply)** | **Progress on goal achievement**  **(Choose one)** | **Comments**  **(if applicable)** |
| Receive California State Fire Marshal reaccreditation. The Fire Technology Program has submitted all materials requested by the SFM, along with a completed application. | 1: Student Success  2: Communication  3: Facilities & Infrastructure  4: Oversight & Accountability  5: Integration  6: Professional Development | Completed:  Spring 2014 (Date)  Revised: \_\_\_\_\_\_\_\_\_\_\_ (Date)  *(*state revised goal) | After a two day visit by the accreditation team: Meeting with the Executive Vice President and the Dean, both fire Chief’s, their staff, and myself, have received CSFM reaccreditation for another five years. |
| Implement an articulation agreement with Kern High School District. | 1: Student Success  2: Communication  3: Facilities & Infrastructure  4: Oversight & Accountability  5: Integration  6: Professional Development | Completed: Spring 2014 (Date)  Revised: \_\_\_\_\_\_\_\_\_\_\_ (Date)  *(*state revised goal) | The High School District has a Fire Technology Vocational Ed. Program. I have worked with the principle over this program, evaluating their test and curriculum in an effort to provide high school students who are successful in their program with credit for our Fire B1 course. This was finalized last Spring semester and college credit was issued to graduating high school students. |
| Obtain approval for 28 new Bakersfield College Certificates, which we currently issue as State Fire Marshal Certificates. This would be an increase of more than 825 certificates for the following year after approval. | 1: Student Success  2: Communication  3: Facilities & Infrastructure  4: Oversight & Accountability  5: Integration  6: Professional Development | Completed:  Spring 2014 (Date)  Revised: \_2015/2016\_ (Date)  *(*state revised goal) | This goal of 28 new certificates was too ambitious. After re-evaluating the new goal is to produce three new certificates. One for Firefighter 1 academy, one for EMT, and finally one for Wildland F/F. |

1. List the program’s goals for the next three years. Ensure that stated goals are specific and measurable. State how each program goal supports the College’s strategic goals. Each program goal must include an action plan.

|  |  |  |  |
| --- | --- | --- | --- |
| **Future Goal** | **Action Plan** | **Lead person for this goal** | **Timeline for Completion:** |
| 1. Renew U.S. Forest Service contract, for another five years. | Negotiations have taken place over the summer, and a final agreement has been submitted for Board of Trustees approval. | Faculty | 2014-2015 and on-going |
| 1. Renew Olive Drive Fire Training contract with the City and County Fire Departments, for another five years. | Negotiations will start in October 2014, and finish by May of 2015. | Faculty | 2014-2015 and on-going |
| **Which institutional goals from the Bakersfield College Strategic Plan will be advanced upon completion of this goal? (select all that apply)** | | | |
| **1: Student Success  2: Communication  3: Facilities & Infrastructure**  **4: Oversight & Accountability  5: Integration  6: Professional Development** | | | |

**VI. Curricular Revisions *(Instructional Programs only):***

1. Review of Course Information:

* Column A list all of the courses associated with the degree.
* Column B list the Fall term the review process will be started for ongoing compliance.
* Column C list the compliance due date.
* Column D list any changes to courses with regard to distance education.
* Column E list corresponding C-ID descriptors if available. <http://www.c-id.net/>

**\*\*Dates listed should reflect a five year cycle allowing for one year of review**

**to maintain ongoing compliance.\*\***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A. Course** | **B. Fall Term Review will be Submitted** | **C. Compliance Due Date** | **D. Distance Education Changes** | **E. C-ID Descriptors Available** |
| **Fire B-1 Introduction to Fire Technology** | 1/1/2015 | 1/1/2016 | n/a | n/a |
| **Fire B-2, Firefighter Safety** | 11/1/2015 | 11/1/2016 | n/a | n/a |
| **Fire B-3, Tactics and Strategies** | 1/1/2016 | 1/1/2017 | n/a | n/a |
| **Fire B-4, Fire Behavior and Combustion** | 12/1/2016 | 12/1/2017 | n/a | n/a |
| **Fire B-5, Fire Prevention** | 11/1/2016 | 11/1/2017 | n/a | n/a |
| **Fire B-6, Fire Protection Systems** | 12/1/2016 | 12/1/2017 | n/a | n/a |
| **Fire B-7, Fire Related Building Construction** | 1/1/2015 | 1/1/2016 | n/a | n/a |
| **Fire B25a, Wildland Fire Behavior** | 11/1/2016 | 11/1/2017 | n/a | n/a |
| **Fire B25b, Wildland Firefighter Safety** | 11/1/2016 | 1/1/2017 | n/a | n/a |
| **Fire B25c, Wildland Fire Operations** | 11/1/2016 | 11/1/2017 | n/a | n/a |
| **Fire B25d, Wildland Fire Prevention, PIO** | 2/1/2016 | 2/1/2017 | n/a | n/a |
| **Fire B25e, Wildland Fire Logistics** | 11/2016 | 11/1/2017 | n/a | n/a |
| **Fire B72h, Emergency Medical Technician** | 10/1/2017 | 10/1/2018 | n/a | n/a |

1. Review of Program Information:

Is the program information housed in Curricunet accurate? (Considerations: changes in course(s) names and/or suffixes as well as additions/deletions of courses). If not, then a program modification needs to be started in Curricunet to reflect the necessary changes. Explain the requested changes below.

AA Degree Fire Technology Program- The information in Curricunet for the AA Degree in Fire Technology is accurate.

AS Degree Wildland Firefighting Program- The information in Curricunet for the AS Degree in Wildland Degree is accurate.

Fire Technology Certificate of Achievement

The information in Curricunet for the Fire Technology Certificate of Achievement is accurate.

1. Student Education Plan (SEP) Pathway(s) uploaded to “Attached Files” in Curricunet.

If applicable, SEP Pathway with CSU Breadth indicated? Yes or **No**

If applicable, SEP Pathway with IGETC indicated? Yes or **No**

If applicable, SEP Pathway with BC General Education indicated? **Yes** or No

**\*\*Please ensure that the information housed in Curricunet and the current catalog match. \*\***

1. If applicable, provide a description of the program’s future adoption of C-ID descriptors and Associate Degree for Transfer (ADT) or Model Curricula.

The Fire Technology Program has requested an articulation agreement with California State University, Los Angeles with their four year Fire Administration Program.

**VII. Faculty and Staff Engagement:**

1. Discuss how program members have engaged in institutional efforts such as committees, presentations, and departmental activities.

The faculty of the Fire Technology Program is as actively engaged as one full time faculty member can be in institutional committees and departmental activities. Although the department is very small staffing wise, it produces a large amount of FTES (503.9) with only 1 full-time and five adjunct faculty for our degree programs. The program has responsibility to our community partners for both pre-service education, and in-service education for career and career advancement. The one Faculty member serves on the curriculum committee, safety committee, two advisory boards, and the responsibility of a faculty chair and director. I meet with the training chiefs of both departments monthly, to discuss training needs and industry standards as well as compliance mandates required by outside accrediting agencies (both State and national).

**VIII. Program Funding Sources:**

Identify any non-KCCD general fund sources

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Title of Account/Grant/Categorical Funding** | **Start Date** | **End Date** | **Percentage of Program Budget Covered** | **Positions funded wholly or in part** |
| Foundation Accounts | n/a |  |  |  |  |
| Grants | n/a |  |  |  |  |
| Categorical Funding | n/a |  |  |  |  |

**IX. Conclusions and Findings:**

Present any conclusions and findings about the program.

The Fire Technology Program is a successful all around academic program offering two degrees, multiple certification routes, and academies which meets one of the primary missions of the California Community College Core Mission through Career and Technical Education. The career of a firefighter is a highly competitive career field in much demand, with moderate to high wages that serves the Kern Community College District service area by providing well qualified firefighters that meet community needs. As a result, the program meets the core values of the college by fostering curiosity and critical thinking, developing ethical standards, and a strong commitment and partnership with our local fire service community in training future competent firefighters.

Program outcomes remain excellent with both success and course retention exceeding college-wide performance. In addition, the program maintains excellent academy graduation results for state certification. To continue to maintain this excellence in the future while providing well trained firefighter professionals for employment, the program continues to lack adequate staffing levels. If this is not corrected the college will burn out the only full time faculty member and the program will suffer the results. This is the one area the program cannot change, only college administrators can change.

**VII. Attachments (place a checkmark beside the forms listed below that are attached):**

[Faculty Request Form](http://committees.kccd.edu/bc/committee/programreview)  [Classified Request Form](http://committees.kccd.edu/bc/committee/programreview)  [Budget Change Request Form](http://committees.kccd.edu/bc/committee/programreview)

Professional Development  [ISIT Form](http://committees.kccd.edu/bc/committee/programreview)  [M & O Form](http://committees.kccd.edu/bc/committee/programreview)

[Best Practices Form](http://committees.kccd.edu/bc/committee/programreview) **(Required)**  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Appendix A**

Below is an excerpt from an email conversation I had with Bill Mosley. He and I discussed why fire technology distance ed. student success and retention were so much lower than face to face. This email explains why there is such a difference between the two.

Hi Sonya -

Just got off the phone with Tim Capehart, and you were right — there is much more to the story than what the numbers tell us.

According to the spreadsheet, there are 18 online sections per year with a 55.5% success rate, and 108 sections of face to face with a 99% retention rate.

The first thing that needs to be addressed or at least known about the data is the nature of these 108 sections of face to face.  The number 108 includes all of the professional training classes offered to current professionals (highly motivated, almost perfect success rate), and also includes the fire academies (when these students finish, they will immediately get a high paying job with the fire dept., so these spots are both highly competitive and motivated to succeed).

If we are going to compare apples to apples (absolutely necessary to have a valid GAP measurement), there are 4 regular face to face sections per year that are comparable to the online sections.  So the data on face to face sections includes 104 “sections” which are not at all equivalent to the online sections, where the success rate is almost perfect.   I’d like to see the numbers for the other 4 sections compared to the 18 online sections, as I’d bet those 4 do not carry a 99% success rate.

In talking to Tim, it also seems likely that Fire Tech courses are an attractive target for the less serious students, including those who are just after the financial aid and those who need “any class to make load”.  We know that this happens to all online classes to some degree, but it is my personal belief that this occurs with a greater frequency in some disciplines where students think that the material might be fun, easy or otherwise interesting.  (I do think my own web design classes are a frequent target for this pattern as well).  This possibility is made much more likely that only two of the 18 sections offered per year require a prerequisite, which allows this sort of behavior to take place.

Tim also informs me that until this semester, he wasn’t clear on the fact that drops after census date counted against the success rate in online classes, and that his policy on dropping non-participating students in online classes is changing as a result.

With all of that said, I’d argue that the data on Fire Tech is more harmful than useful.  It also makes me wonder about the rest of this summary data, and what else might be included in these numbers that really shouldn’t be there.

I’ve copied Tim on this email, so he can correct any mistakes I might make in the data/discussion.

Bill

**Appendix B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2013-2014 SFM/NWCG Certificates** | | |  |  |
|  |  |
| Class | Dates | CRN | # Certs |  |
| M410 | 3/10-14/14 | 32592 | 12 |  |
| F/F 1 Academy | 8/5-1/17/14 | 72422 | 16 |  |
| LLAR | 8/14-16/13 | 72567 | 16 |  |
| RS1 | 9/9-13/14 | 72568 | 16 |  |
| HAZMAT 1A | 10/7-11/13 | 72569 | 35 |  |
| Inst 1A | 10/21-25/13 | 72557 | 22 |  |
| HazMat 1B | 10/21-25/13 | 72622 | 36 |  |
| RS2 | 10/28-11/1/13 | 72619 | 21 |  |
| HazMat 1C | 11/4-8/13 | 72623 | 35 |  |
| Command 2C | 11/18-22/13 | 72558 | 23 |  |
| Trench Rescue | 11/11-14/13 | 72624 | 20 |  |
| HazMat 1D | 12/2-6/13 | 72559 | 33 |  |
| Command 2D | 12/2-6/13 | 72559 | 17 |  |
| DO 1A | 12/2-6/13 | 72692 | 14 |  |
| Confined Space | 10/30-11/27 | 72701 | 28 |  |
| Confined Space | 12/9-13/13 | 72620 | 16 |  |
| Swift water Res | 11/25-27/13 | 72703 | 15 |  |
| S290 | 12/16-20/13 | 72712 | 15 |  |
| F/F 1 Academy | 1/6-5/14 | 31220 | 34 |  |
| Command 1A | 1/6-10/14 | 31216 | 28 |  |
| Mgt 2B | 1/27-31/14 | 31227 | 19 |  |
| Invest 1A | 2/3-7/14 | 31232 | 34 |  |
| Mgt 2D | 2/14-28/14 | 31229 | 31 |  |
| F/F 1 Academy | 2/24-7/18/14 | 32526 | 41 |  |
| Inst 1B | 2/24-28/14 | 31234 | 25 |  |
| S215 | 2/10-17/14 | 32578 | 22 |  |
| S244/245 | 2/10-14/14 | 32577 | 24 |  |
| I300 | 2/12-14/14 | 32563 | 19 |  |
| Command 1B | 3/10-14/14 | 31217 | 24 |  |
| Confined Space | 2/10-14/14 | 32618 | 20 |  |
| Mgt 1 | 3/17-21/14 | 31233 | 30 |  |
| Mgt 2E | 3/24-28/14 | 31231 | 30 |  |
| LLAR | 3/9-22/14 | 32593 | 32 |  |
| S260 | 3/25-27/14 | 32579 | 20 |  |
| DO 1A | 3/10-14/14 | 32594 | 19 |  |
| DO 1A | 3/24-28/14 | 32596 | 22 |  |
| S356 Supply Un | 3/3-4/14 | 32585 | 19 |  |
| Rescue Sys 1 | 3/31-4/4/14 | 32598 | 39 |  |
| S354 | 4/2-4/14 | 32586 | 19 |  |
| Command 1C | 4/7-11/14 | 31235 | 23 |  |
| S336 | 4/7-10/14 | 32587 | 18 |  |
| S230 | 4/14-16/14 | 32588 | 14 |  |
| Confined Space | 4/7-11/14 | 32602 | 39 |  |
| Prev.1 | 4/21-24/14 | 31230 | 32 |  |
| S231 | 4/17/2014 | 32581 | 17 |  |
| DO 1B | 4/28-5/2/14 | 32603 | 20 |  |
| DO 1B | 5/5-9/14 | 32604 | 21 |  |
| Rescue Sys 2 | 5/12-16/14 | 32605 | 39 |  |
| DO 1A | 5/13-17/13 | 50613 | 7 |  |
| Trench Rescue | 5/15-17/13 | 50611 | 20 |  |
|  |  |  |  |  |
|  | **TOTAL** | **1191** |  |  |